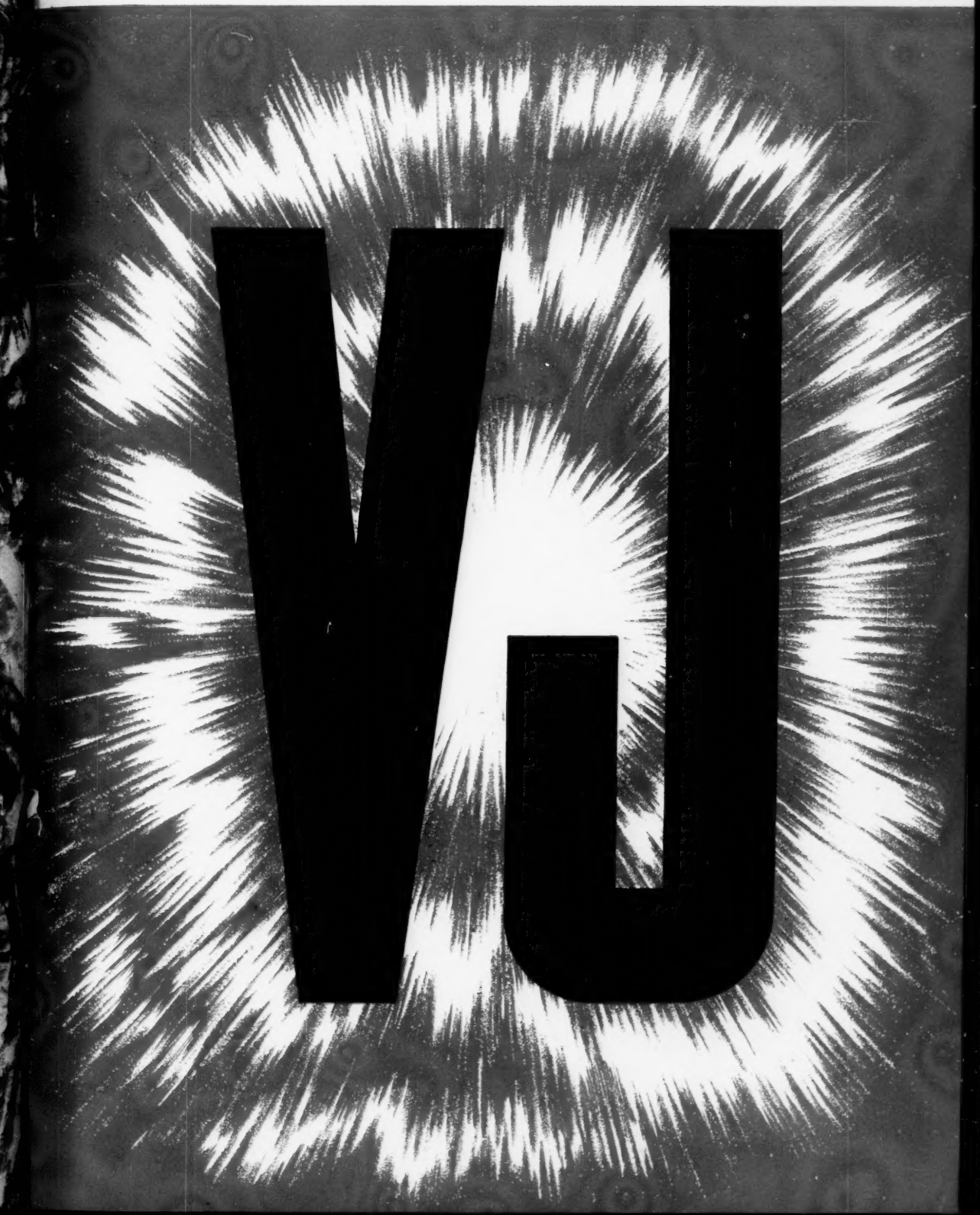
MARINE CORPS Gazette

SEPTEMBER, 1945 30c



THIS MONTH'S COVER

Silhouetted against the flare of the atomic bomb, the letters "VJ" stand for even more than a victorious end of the greatest war in history. They symbolize a realization of the hopes which have sustained American fighting men through the bitter years of battle and a badge of honor for the Marine Corps. VJ may set the closing seal upon an era of civilization. No man can say now with any assurance what the future holds, but in the unity of nations which defeated Germany and Japan, in the awesome force which our scientists have released from the simplest component of the universe, lies the promise of a new world which may well be worth what it cost. All of us hold responsibility for the fulfillment of that promise.

THE MARINE CORPS GAZETTE

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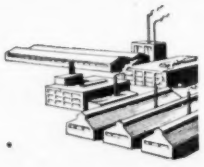

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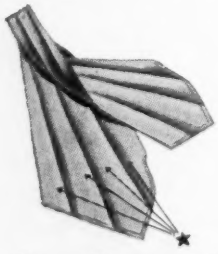

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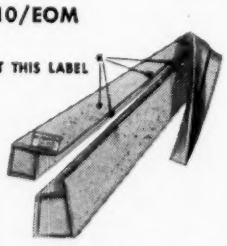

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TWO WAYS TO BUILD A ROAD

War Department Photo

ENGINEERS who have served with the Army's Y-Force Operations Staff know something about the dependable power of "Caterpillar" Diesel Tractors. They have seen them bull-dozing roadways through rough country on the mountain sides above the Salween River — forging the link between the new Ledo and the old Burma Roads.

Willing Chinese coolies by the hundreds worked on those roads, too. They worked long hours and carried heavy loads. But the pitiful slowness of their age-old, hand-labor methods was dramatically apparent in contrast to the power, efficiency and extraordinary work-capacity of the big "Caterpillar" Diesels.

When they first appeared, the coolies quaked with fear at the sight of roaring dragon-machines that could tear tons of earth and rock out of a hillside at one bite. Then they became admirers and enthusiastic team-mates of the tractors.

Many of the "impossible" things the Marines, Engineers and Seabees have done in this war could never have been accomplished without the heavy-duty earthmovers that were a unique American development.

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How a Continent Spoke to the World . . .

Not so many years ago
Most countries of South America
Had no telephone connection
With the rest of the world

In fact the telephone systems
Of the various republics
Were even separated from one another . . .
Sometimes by great natural barriers
Of mountain or jungle

But back in the Twenties
IT&T realized
That radiotelephony
Could leap such barriers

Soon IT&T associate engineers were at work . .
Ground was cleared near Buenos Aires . . .
By oxcart
Structural steel, apparatus, even dynamos
Began to arrive . . .
Great towers rose against the sky

And from them
On Columbus Day, 1929
South America telephoned
Across the sea to Spain

Ultimately most of the phones
In South America were interconnected
With each other and the world
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Any port in a storm ... but there are no ports

More than one sailor has said, "It's a helluva place to fight a war!"

That's a miracle of understatement when you know the Pacific as well as the U. S. Navy knows it.

They know how many thousands of miles you have to go before you reach the fighting fronts.

They know there's almost continual rain and bad weather to hamper operations after you get there.

And they know there are no good ports!

Think of the thousands of ships, and the millions of tons of supplies it takes to keep our fighting forces moving toward Japan.

Imagine, if you can, the problem of handling those ships and supplies with no port facilities.

There are no giant cargo cranes... no miles of docks and warehouses... nothing but beaches, and human backs, and a refusal to call any job impossible.

Remember, too:

It takes 3 ships to do the supply job in the Pacific that 1 ship can do in the Atlantic.

It takes 6 to 11 tons of supplies to put a man on the Pacific battleline, and another ton per month to keep him supplied.

It takes a supply vessel, under ideal conditions, half a year to make one round trip.

Add up those facts, multiply by the number of sailors, soldiers, and marines for whom the Navy is responsible.

Maybe you'll begin to realize what "no ports" can mean in the rough, tough waters of the Pacific.

Maybe you'll see that we have *two* reasons to be proud of the U. S. Navy. *First*, the way they've sunk the enemy's ships.

Second, the way they sail *your* ships ... taking the worst the Pacific can hand them... but keeping the supply lines open ... keeping the attack *on schedule!*

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THE MARINE CORPS
THE PROFESSIONAL MAGAZINE
FOR UNITED STATES MARINES

Gazette

SEPTEMBER 1945

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IT WAS a victory of one way of life over another. It was a victory of an ideal founded on the rights of the common man, on the dignity of the human being, and on the conception of the state as the servant—not the master—of its people.

A free people showed that it was able to defeat professional soldiers whose only moral arms were obedience and worship of force.

We tell ourselves that we have emerged from this war the most powerful nation in the world—the most powerful nation, perhaps, in all history. That is true, but not in the sense some of us believe it to be true.

The war has shown us that we have tremendous resources to make all the materials for war. It has shown us that we have skillful workers and managers and able generals, and a brave people capable of bearing arms.

All these things we knew before.

The new thing—the thing we had not known—the thing we have learned now and should never forget, is this: that a society of self-governing men is more powerful, more enduring, more creative than any other kind of society, however disciplined, however centralized.

We know now that the basic proposition of the worth and dignity of man is not a sentimental aspiration or a vain hope or a piece of rhetoric. It is the strongest, the most creative force now present in this world.

Now let us use that force and all our resources and all our skills in the great cause of a just and lasting peace!

The three great powers are now more closely than ever bound together in determination to achieve that kind of peace. From Teheran, and the Crimea, from San Francisco and Berlin—we shall continue to march together to lasting peace and a happy world.

—President Truman

TO OFFICERS, MEN AND WOMEN OF THE MARINE CORPS:

THE victory in the Pacific, over which the world is rejoicing, is your victory. During the three years and eight months of hostilities with Japan, you have made a great and vital contribution to this overwhelming triumph of Allied arms.

You have every reason to be thoroughly proud of your record, and your people, in turn, have every reason to be proud of you.

Your courage, your unsurpassable skill, your devotion to duty, and your sacrifices will never be forgotten by your nation, or by those who will carry on your heritage as Marines of the future.

As fighting members of the Fleet Marine Force—both on land and in the air, aboard major warships, and at shore installations and posts and stations overseas and at home, you have performed your manifold duties with that strength of spirit which gave assurance from the outset that ultimate victory was certain.

Your heroic resistance at Wake, Midway, Guam and the Philippines helped to give America time to marshal her forces of defense.

In a war predominantly amphibious in nature, you then proved yourselves beyond question to be masters of the land-seizing phases of amphibious operations. You took every ship-to-shore objective assigned to you. Not once did you fail. The names of those land, sea and air battlefields on which you met and vanquished the enemy will hold an honored and imperishable place in American history.

In the cemeteries of those now-peaceful battlefields we have left many of our comrades who gave their lives while fighting shoulder to shoulder with us. Let us never forget their sacrifices. Let us keep alive in our memories the causes for which they died. Their sacrifice will have lost full meaning if this peace for which they fought does not endure. We must resolve to defend world peace hereafter with the same intense devotion with which we have defended our country at war.

Some immediate military and naval jobs remain to be done. Those provisions which will make sure that Japan never again will endanger the peace must be carried out, and the armed forces necessarily will be called upon to take a part in that all-important task.

However, I wish to repeat what I said in a broadcast to you several weeks ago. At that time I stated that when we could begin demobilization of the Corps we intended to put into effect immediately a system to get you home in a manner as rapid, equitable and orderly as possible.

We can now begin. We are inaugurating the system at once, and we believe you will find it the fairest and most efficient that can be employed.

Whether you return to civilian life or serve with the Corps through the years to come, please accept my confidence and good wishes in your success. We shall all—in keeping with our watchword through the grim trials of the past—remain ever faithful to the ideals for which our nation stands.

—A. A. VANDEGRIFT,
Commandant of the Marine Corps.

Marine Demobilization Plan

DETAILS of the Marine Corps' plan for demobilization of personnel were announced by the Secretary of the Navy immediately after Japan's surrender. The plan approved provides the most equitable means possible of establishing priority for release of Marines by computing service credits.

The Marine Corps' point system applies to both officers and enlisted men. However, officers to be transferred to regular duty will not be released on points. No reserve officer will be permitted to ask for inactive duty and at the same time, or later, ask for a regular commission.

There is a higher proportion of men with enough points for discharge in the officer category, but it is expected that there also will be a higher proportion of officers remaining in the Corps. Therefore, discharge of officers and enlisted men under the point system will be at about the same proportionate rate, which will amount to approximately 25 per cent of the present numerical strength in the initial discharge of men with 85 or more points. It is estimated that at least 100,000 enlisted men and 9,000 officers will be discharged under the initial 85-point plan.

Points will be computed from the following four factors:

(1) SERVICE CREDIT. One point for each month of service since 16 September, 1940.

(2) SEA AND FOREIGN DUTY CREDIT. One point for each month served overseas or afloat since 16 September, 1940.

(3) COMBAT SERVICE. Five points for the first and each additional award of the following decorations:

(a) Medal of Honor, Navy Cross, Distinguished Service Cross (Army), Distinguished Service Medal, Legion of Merit, Silver Star, Distinguished Flying Cross, Navy and Marine Corps Medal, Bronze Star Medal, Air Medal, Purple Heart and Bronze Service Star. (Presidential Unit Citation Ribbon or Star is not to be counted as credit.)

(4) PARENTHOOD CREDIT. Twelve points for each child under 18 years of age, up to a limit of three children.

The critical score to be used in initiation of this plan is eighty-five (85) points for male personnel and twenty-five (25) for female personnel. While the plan was computed originally as of 12 May, 1945, it has been made effective as of 1 September, 1945.

There will be no forms to be filled out for discharge under the point system. Enlisted men's points will be computed and entered in their record books by their commanding officers. The individual's service record book will be the final authority for determination of credits for service, combat and parenthood. Officers will submit their points as directed.

Data is being, and has been for several months, compiled for the purpose of placing the Marine Corps' plan in effect. Subsequent reduction in critical scores will be based upon analyses of this compilation with due regard to missions assigned to the Marine Corps in the immediate future.

In the cases of personnel having sufficient points for discharge who desire to remain in the Corps, they probably will be permitted to do so as long as there is need for their services. Conversely, the Marine Corps will be unable to release certain key personnel who have the required critical score until relief can be provided and trained. Because of the relatively small numbers of personnel involved to be considered, special consideration will be given to individual cases of officers to be demobilized.

Primary consideration in the release of officers will be given to the immediate needs of the service and to the necessity of keeping male officers who apply for transfer to the regular Marine Corps. It is the intention of Headquarters, Marine Corps, that the foregoing plan shall supplement but not replace existing policies and directives concerning releases and discharges.

Last Stop—Rehabilitation

Now that the war is over, the same effort applied to the creation of a fighting Marine Corps will be expended in returning marines to civilian life.

By Capt. Orville L. Freeman

"ONCE a Marine, always a Marine," is the basic tenet upon which the Marine Corps Rehabilitation program operates. The Marine Corps feels a debt and a continuing obligation to the men and women who have served it well. The Corps took these men and women as civilians and molded them into a fighting team with the esprit de corps of which the Marine Corps is so proud. The same effort expended in the process of making a fighting Marine is now applied to training each Marine to return to the complex civilian life from which he has been far removed. The Marine Corps continues to advise and to help him so that he can quickly find social and economic adjustment in the civilian community.

Rehabilitation is defined by the Marine Corps as "restoration to privileges;" the privilege of a sound body, the privilege of a job, the privilege of an education temporarily interrupted by service to country, and the many other privileges of free citizenship in a democratic world.

Late in 1942 and early in 1943 the number of discharges began to mount. Experience soon demonstrated that many ex-Marines were having difficulty making their civilian readjustment. It was soon apparent that it was not enough to wish a Marine well, to pat him* on the back, to shake his hand, and then to fall back on the technicality that the obligation of the service ends upon discharge. The impact with civilian life must be cushioned by the service if cynicism, disillusionment, and maladjustment to society are to be avoided. Quite naturally the ex-Marine will have respect for the suggestions and assistance offered by men in his own service. The service can best bring home to him some realization of the problems he must face. The service can best tell him of the civilian agencies which have been established to render needed assistance, and that the services of these agencies are not by way of charity but are provided in recognition of an obligation felt by the country.

As a result of these findings, the Commandant's staff recommended in October 1943 that "a section be formed within the Personnel Department to be known as the Rehabilitation Section," with this mission: to handle the administration of all cases involving enlisted or commissioned personnel of the Marine Corps connected with rehabilitation, reemployment, compensation and all other matters concerning the rights and privileges of discharged or demobilized Marines. Further, that his section be charged with liaison between the Marine Corps and other allied agencies of the United States Government, of the several states, of the American Red Cross and the various veterans' societies that have to do with rehabilitation and welfare of discharged Marines. Immediately after the establishment of the Rehabilitation Section, LtCol Brewster Rhoads, USMCR, who had been chosen to organize the program, made a study of the discharge procedure in all of the services. This study, including a field survey, was followed by recommendations which resulted in the establishment of the Marine Corps Rehabilitation program. Certain organizational and personnel changes have taken place since November 1943. With these exceptions, the program is operating substantially as when it was organized. Now as then, service to the ex-Marine is the paramount consideration.

The Marine Corps Rehabilitation program revolves around the District Rehabilitation Offices. District Rehabilitation Offices have been established throughout the country in the following cities: Boston, Mass.; New York, N. Y.; Washington, D. C.; Philadelphia, Pa.; Portsmouth, Va.; Charleston, S. C.; Jacksonville, Fla.; New Orleans, La.; Chicago, Ill.; Los Angeles, Calif.; San Francisco, Calif.; and Seattle, Wash. Each office is headed by a District Rehabilitation Officer who is attached to the staff of the Reserve District Commander of the Marine Corps Reserve District in which the given office is located.

The selection of District Rehabilitation Officers is based on civilian background and experience, as well as military classification and the expressed desire for such work. These officers are carefully indoctrinated by periodic conferences at Marine Headquarters and each serves an apprentice period before taking over a district office. They are kept up to date on current legislation, administrative determinations and other pertinent information in the field of veterans' rights, benefits and programs, by means of information memoranda made available periodically from the Rehabilitation Officer at Marine Headquarters. The District Rehabilitation Officer is charged with establishing and maintaining a suitable rehabilitation program within the Marine Reserve District which he serves. He is to assist Marine Corps personnel awaiting discharge and following discharge in the problems of rehabilitation, reemployment and readjustment to civil life. He is to maintain constant liaison with all civil agencies, governmental and private, local, state and

*The masculine will be used throughout this article. It is meant to include Women Marines as well as men.

federal, engaged in the administration of the various veteran programs. He is further to exercise his ingenuity and resourcefulness in developing any sources of rehabilitation within his district which might be considered desirable and which are indicated by local conditions.

The staff of each District Rehabilitation Officer consists of a Women's Reserve officer assistant, a clerical section and a number of specially trained enlisted interviewers called occupational technicians. The Women's Reserve officer interviews WRs about to leave the service and assists in whatever follow-up work proves necessary. Most of the pre-discharge interviewing is done by the enlisted interviewers. These men are classification specialists selected for rehabilitation work on the basis of their civilian experience and Marine Corps records. They are put through an intensive four-week training course designed to acquaint them with interviewing and counseling techniques, statistical methods, fundamental psychological principles, and to provide a thorough schooling in the whole field of veterans' rights and benefits. This training is culminated by an apprentice period in a district office, the duration of which varies in accordance with the aptitude of the particular interviewer. These enlisted interviewers are peculiarly equipped to serve the dischargee. The mere presence of the uniform simplifies the establishment of rapport during the interview. The hesitancy some men feel in dealing with officers is missing. Records and information about special cases are available and can be interpreted in terms of the interviewer's own Marine Corps experience. Thus a personalized interview can be conducted in every instance.

Post Rehabilitation Officers have been appointed at the Marine Corps Base, San Diego, Calif.; Camp Lejeune, N. C.; Marine Barracks, Parris Island, S. C.; Marine Barracks, Quantico, Va.; Marine Barracks, Klamath Falls, Ore.; and Marine Barracks, Mare Island, Calif. Post Rehabilitation Officers should not be confused with District Rehabilitation Officers. The duties of a Post Rehabilitation Officer are confined to his respective post or station. The Post Rehabilitation Officer is to supervise the enlisted interviewers assigned to his post or station, to act as the representative of the commanding officers in all rehabilitation matters, and to coordinate the over-all rehabilitation program including the work of certain representatives of civilian organizations who may be admitted to the post to assist veterans. District Rehabilitation Officers and Post Rehabilitation Officers work in close liaison, the District Rehabilitation Officer "following up" each ex-Marine.

Women's Reserve Post Rehabilitation Officers have been designated and trained where large numbers of WRs are stationed. Pre-discharge interviews are handled by these Women's Reserve officers. They are further charged (under the supervision of the Post Rehabilitation Officer where present) to maintain liaison with all interested and concerned parties and agencies throughout their respective posts or stations to the end that all possible resources are mobilized to assist the WR dischargee.

The operation of the rehabilitation program is best considered from two approaches. The pre-discharge phase initiates the rehabilitation process. Every Marine before leaving the service is contacted and interviewed by Rehabilitation personnel. Help in solving personal problems, information regarding veterans' rights and benefits, vocational testing and guidance in selecting a vocation, are in general a few of the services made available.

The interview itself consist of two parts. The first part is mandatory. During this phase the interviewer explains to the dischargee his rights, benefits, and duties as a veteran. Every effort is made to insure that when a Marine leaves the service everything possible has been done for him. His records will be brought up to date and his pay account straightened out. He will receive the first $100 of his mustering-out pay (the rest to be mailed monthly) and will be advised regarding the continuance or conversion of his National Service Life Insurance. If he was employed before entering the service, notification of his discharge date will be sent to his former employer. The interviewer will go over with him, point by point, his rights and benefits as a veteran and answer any questions which may be bothering him. Educational information, sources of private or governmental job opportunities, loans for homes, business or farms, vocational training, pensions, hospitalization, and any related subject which may prove useful will be explained in detail.

During the interview the Marine will be provided with the following material: (1) a copy of a booklet explanatory of his rights and benefits as a veteran; (2) a notice of separation, Form NAVMC 78-PD, copies of which are sent to Selective Service, the Veterans Administration, the United States Employment Office, and the District Rehabilitation Office in the district in which he plans to live. This notice of separation is designed to provide the veteran with a concise statement of his service record, his education and training before and during service, his job and educational qualifications and preferences, place and date of entry into and separation from the service, whether or not he has filed a pension claim, and other information which may prove useful to him or his employer or to those agencies with which he may be concerned once he has become a civilian; (3) a card with the address of the District Rehabilitation Officer in the district where he plans to live. Each dischargee is urged to contact his local Rehabilitation Officer upon his return home should he desire assistance or advice of any kind.

The second or counseling part of the interview is entirely optional. The dischargee is privileged

to discuss and to receive help in solving any problems he may face. Varied types of problems, usually personal in nature—employment problems, personality problems, family problems, economic problems and the like might be considered. Additional interviews, the number dictated by the needs of the man, may be held.

At present most Marines are separated at the various posts and stations throughout the U. S. However, it is contemplated that in the future the great bulk of separations will be made through separation centers. Several reasons dictate the organization of such centers. With the termination of hostilities the discharge rate has become very heavy. If Marines are to be separated quickly and efficiently and are to receive the same personalized service as at present, the discharging process must be geared up.

In November of 1944 an experimental separation company was established at San Diego. It was expected that the mechanics of separation from the service could be streamlined and essential experience gained through operating such a company. With a few exceptions this unit separates all Marines in that part of the 11th Naval District which lies within the state of California. Its successful operation has resulted in the establishment of a similar company in the San Francisco Area. Separation by such a method is necessarily a streamlined process sometimes likened to an assembly line. It is intended that each Marine shall be discharged in a period of 72 hours or less. Processing includes the steps which have been described above, but it is expedited by the fact that teams of specialists are available. In addition to military personnel, representatives of the Red Cross, the Veterans Administration and the U. S. Employment Service are present at the Separation Company. If the dischargee requires technical information about his rights as a veteran and the preparation and submission of records and claims, he is referred to the Veterans Administration representative. If his problem is one of employment counseling, job opportunities or job requirements, a trained U. S. Employment Service representative is available to help him. The Red Cross helps in the preparation of pension claims and stands ready to assist him with personal and family problems. No man is required to see all of these people. His primary interview is conducted in private with the Marine Corps Rehabilitation interviewer. Only if he needs special attention and requests is he referred to any one else.

In the Separation Company every effort is made to discharge the Marine as quickly as possible without cutting short essential rehabilitation procedures. The time involved is profitably spent so that the natural irritation of the Marine at any delay can be avoided. Each Marine is to be given a detailed interview, counseling if desired, and the opportunity to ask any and all questions. Every effort is made to make him feel that the Marine Corps wants to send him back to civilian life fully cognizant of his rights and confident in his ability to make a quick and easy civilian adjustment. Unlike an induction station, the emphasis is on serving the Marine, while maintaining the dignity of the induction process. Everything possible is done to meet the needs of the dischargee and to make his separation a rapid, painless and perhaps even a pleasant process. It is contemplated that Marines will be discharged from points as close to their homes as possible.

The second phase of the rehabilitation process is the follow-up procedure. The follow-up is the very essence of the program. Readjustment to civilian life does not take place at a military post or station or the day after return home. The ex-Marine is now a civilian, but his thinking will for some time be along the lines he followed while a Marine. During this period Marine personnel should be (and are) available to give him a helping hand. He has the encouragement of knowing the Marine Corps has not forgotten him and is grateful for his services.

Men leaving the service want to get home as quickly as possible. As a result, the average Marine often fails to absorb all the necessary information made available to him during his pre-discharge processing. In some cases he will neglect to request help that he may need in solving personal problems and in deciding what his future plans should be. He may even fail to apply for benefits to which he is entitled. Then again, many problems, not expected at the time of separation, arise upon return home. Perhaps his application for benefits has not been acted on. Or maybe he has new ideas for his future or personal problems he didn't anticipate.

Through the follow-up procedure, the Marine Corps stands ready to help him in his home community. Instead of waiting for a Marine to come to them, Rehabilitation personnel take the initiative and contact each Marine.

Let us take a hypothetical case to illustrate the mechanics of the follow-up procedure. Corporal Smith was discharged in San Diego. During his interview, he was given a card with the name and address of the Rehabilitation Officer nearest his home in Chicago. Upon completion of the Separation Report, the 8th copy, with additional information giving a more complete picture of Corporal Smith, was forwarded by the local District Rehabilitation Officer to the District Rehabilitation Officer in Chicago. Shortly after receipt of this information, a letter was sent to Smith from the Chicago office, reminding him that they were anxious to help him in any way. If nothing is heard from the corporal, a similar letter will be sent a month later. Three months after his discharge he receives a card from Headquarters, Marine Corps, reply portion addressed to the Chicago Rehabilitation Officer, re-

minding him again that Rehabilitation personnel will help him. All this time Corporal Smith's file in the Rehabilitation Office in Chicago is kept open. Only after receipt of evidence of his satisfactory adjustment, or if he neglects to respond to the overtures made to him for a period of six months, is his file closed. Then the records are sent to Washington for his permanent file jacket.

A similar process is followed with each Marine who leaves the service. If the home of the discharged Marine is far removed from the closest Rehabilitation Office, the services of Marine Corps Selective Service and Procurement Rehabilitation Liaison personnel are called into play. In any case, Rehabilitation personnel are always available. This is not to say that the Marine Corps is trying to do the job of or compete with civilian agencies. On the contrary, it is our job to channel the veteran with a problem to the agency equipped to meet that problem and further to make sure that a satisfactory solution is reached. The follow-up, like the pre-discharge interview, is primarily a referral process. Nevertheless, certain problems can be met best by a man in the uniform of the veteran's service, and in such cases Rehabilitation personnel will carry the problem through to a solution.

The success of the follow-up procedure has justified the vision of the Marine Corps in establishing it. Letters of appreciation for services rendered have been received from ex-Marines all over the United States.

These rehabilitation procedures are under constant scrutiny for flaws and imperfections, and we will continue to strive in every conceivable way to improve them. The Marine Corps' contribution toward winning the war is written in history. That its record in winning the peace will be as bright is the goal of Rehabilitation.

Monograph Competition

FOR some time the GAZETTE has believed that the special field experience of senior officers returning from combat areas in the Pacific too frequently is not available to a large percentage of officer personnel in the Marine Corps. As the professional magazine of the Corps, the GAZETTE is eager to stimulate discussion of the various phases of military tactics, modifications to meet changed conditions in the field or to exploit new types of ordnance, the aspects of administration and staff work, and the employment of weapons.

To encourage such discussion and at the same time to bring to a large and professionally concerned readership studies of the varied elements involved in modern Marine operations, the GAZETTE is sponsoring an editorial competition among officers attending the current term of the Command and Staff School at Quantico. During the graduation ceremonies, Col John Potts, editor-in-chief of the GAZETTE, will present to the author of the best monograph dealing with the writer's work before attending the school a two-hundred-dollar watch—an award of special recognition for the quality of the monograph. The winning monograph will be published by the GAZETTE, and the writer will be paid standard space rates in addition to the watch award.

The Marine Corps Schools Board of Review, of which Col Merrill B. Twining, acting Schools' Commandant, is the senior member, will judge the entries. The GAZETTE has urged participants to treat exhaustively and in detail a particular phase or element of a broad subject. The monograph's content, obviously, will be the primary consideration in judging. But the Board of Review also will base its decision on the manner in which the material is organized and on the force and clarity of the presentation. By limiting the length of the monographs to 3000 words, a premium is placed on compact and succinct exposition. The limitation was deliberate. If the objectives of this competition are to be attained, the topics of importance must not only be prepared and published, but they must get a wide reading.

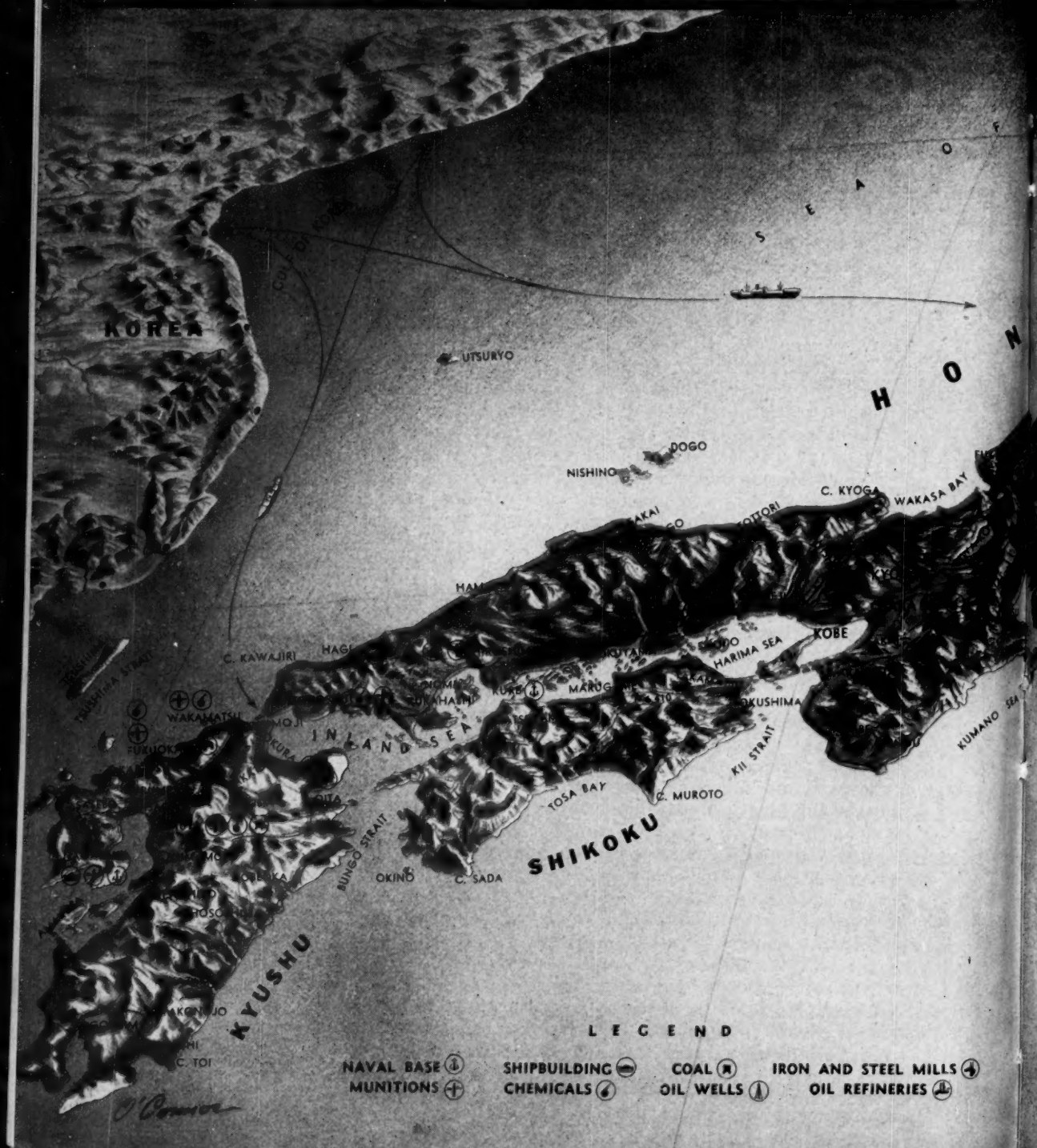
All manuscripts must be submitted to Col Twining at least 12 days before graduation in mid-September. Because of the great range of topics of interest to GAZETTE readers, it is assumed that a number of monographs will be submitted which will be of sufficient merit to warrant publication. The GAZETTE will purchase such monographs, and the writers will be paid standard rates.

Principal objective in this competition is to create interest in the publication of these monographs and thus to encourage others of the GAZETTE'S readership to share their knowledge and experience with their fellow Marines.

JAPAN

JAPAN PROPER CONSISTS OF FOUR PRINCIPAL ISLANDS: HONSHU, HOKKAIDO, KYUSHU AND SHIKOKU. ALL OF THE MANUFACTURING INDUSTRIES, WITH VERY FEW EXCEPTIONS, ARE LOCATED ON HONSHU AND KYUSHU

AREA—157,261.4 SQUARE MILES. POPULATION (1930)—JAPAN PROPER—64,450,005; KOREA—21,058,305; FORMOSA—4,592,537; SAKHALIN—295,196; TOTAL—90,396,043



Approximate tonnage, HE + incendiaries on the mainland (to 1 Aug). No attack under 100 tons included. Plus 30,000 tons by Navy bombers and 22,000 tons by Naval gunfire.

TOKYO—POPULATION 6,700,000 — IRON & STEEL — SMALL ARMS & MUNITIONS CHEMICALS, DYES, ELECTRICAL EQUIPMENT

21,392 TONS

KAWASAKI—POPULATION 300,000 — SHIP BUILDING, AIRCRAFT, AUTOMOBILE, ENGINEERING & ELECTRICAL EQUIPMENT

2,536 TONS

YOKOHAMA—POPULATION 968,000—MANUFACTURING CHEMICALS, DYESTUFFS, ALUMINUM, NICKEL, SHIPBUILDING

2,590 TONS

YOKOSUKA—PRINCIPAL NAVAL BASE, NAVAL SHIPBUILDING YARDS, ARSENAL, AIRCRAFT, ENGINE SHOPS

NO FIGURES AVAILABLE

NAGOYA—POPULATION 1,300,000—AIRCRAFT FACTORIES, MOTOR PLANTS, ARMAMENT FACTORIES, AMMUNITION, TANKS, RAILWAY EQUIPMENT, COPPER, IRON, STEEL, MACHINE TOOL & CHEMICAL INDUSTRIES

13,424 TONS

OSAKA—POPULATION 3,200,000—CENTER OF TEXTILE INDUSTRY, HEAVY INDUSTRY, SHIPBUILDING YARDS OF THE OSAKA IRON WORKS, AIRCRAFT & AUTO PLANTS, OIL & CHEMICAL FACTORIES, STEEL & ENGINEERING WORKS

13,212 TONS

KYOTO—POPULATION 1,089,000—COTTON & SILK MANUFACTURING CENTER

NO FIGURES AVAILABLE

KOBE—POPULATION 960,000—GREAT MITSUBISHI SHIPBUILDING & ENGINEERING CENTER, DOCKS, SHIPYARDS & AIRCRAFT PLANTS

6,068 TONS

YAWATA—LARGEST IRON & STEEL WORKS IN COUNTRY

INCLUDED IN NORTH KYUSHU AREA FIGURES

NAGASAKI—CHIEF PORT — DOCK YARDS, SHIPBUILDING

INCLUDED IN NORTH KYUSHU AREA FIGURES

NORTH KYUSHU AREA—MOST IMPORTANT COAL PRODUCING REGION

6,715 TONS

SASEBO—NAVAL SHIPBUILDING YARDS AND DOCK YARDS

1,095 TONS

Navajo Code Talkers

For three years their strange language served the Marine Corps well for transmitting secret radio and telephone messages in combat. Now the story of their work can be told. ***By MTSgt Murrey Marder****

THROUGH the Solomons, in the Marianas, at Peleliu, Iwo Jima and almost every island where Marines have stormed ashore in this war, the Japanese have heard a strange language gurgling through the earphones of their radio listening sets —a voice code which defies decoding.

To the linguistically keen ear it shows a trace of Asiatic origin, and a lot of what sounds like American double-talk. This strange tongue, one of the most select in the world, is Navajo, embellished with improvised words and phrases for military use. For three years it has served the Marine Corps well for transmitting secret radio and telephone messages in combat.

The dark-skinned, black-haired Navajo code talker, huddled over a portable radio or field phone in a regimental, divisional or corps command post, translating a message into Navajo as he reads it to his counterpart on the receiving end miles away, has been a familiar sight in the Pacific battle zone. Permission to disclose the work of these American Indians in marine uniform has just been granted by the Marine Corps.

Transmitting messages which the enemy cannot decode is a vital military factor in any engagement, especially where combat units are operating over a wide area in which communications must be maintained by radio. Throughout the history of warfare, military leaders have sought the perfect code —a code which the enemy could not break down, no matter how able his intelligence staff.

Most codes are based on the codist's native language. If the language is a widely-used one, it also will be familiar to the enemy and no matter how good your code may be the enemy eventually can master it. Navajo, however, is one of the world's "hidden" languages; it is termed "hidden," along with other Indian languages, as no alphabet or other symbols of it exist in the original form. There are only about 55,000 Navajos, all concentrated in one region, living on Government reservations and intensely clannish by nature, which has confined the tongue to its native area.

Complicating the Navajo language, there are dialect variations among the tribes, and in some cases even dialects within a tribe.

Except for the Navajos themselves, only a handful of Americans speak the language. At the time the Marine Corps adopted Navajo as a voice code it was estimated that not more than 28 other persons, American scientists or missionaries who lived among the Navajos and studied the language for years, could speak Navajo fluently. In recent years, missionaries and the Interior Department's Bureau of Indian Affairs have worked on the compilation of dictionaries and grammars of the language, based on its phonetics, to reduce it to writing. Even with these available it is said that a fluency can be acquired from prepared texts only by persons who are highly educated in English and who have made a lengthy study of spoken and written Navajo.

One of the reasons which prompted the Marine Corps to adopt Navajo, in preference to a variety of Indian tongues as used by the AEF in the last war, was a report that Navajos were the only Indian group in the United States not infested with German students during the 20 years prior to 1941, when the Germans had been studying tribal dialects under the guise of art students, anthropologists, etc. It was learned that German and other foreign diplomats were among the chief customers of the Bureau of Indian Affairs for the purchase of publications dealing with Indian tribes, but it was decided that even if Navajo books were in enemy hands it would be virtually impossible for the enemy to gain a working knowledge of the language from that meager information. In addition, even ability to speak Navajo fluently would not necessarily enable the enemy to decode a military message, for the Navajo dictionary does not list military terms, and words used for "jeep," "emplacement," "battery," "radar," "antiaircraft," etc., have been improvised by Navajos in the field.

THE adoption of code talkers by the Marine Corps stemmed from a request for Navajo communicators by MajGen Clayton B. Vogel, then Commanding General, Amphibious Corps, Pacific Fleet. A report submitted with his request said a Navajo enlistment program would have full support of the Tribal Council at Window Rock, Ariz., Navajo Reservation.

Acting on this request, the Marine Corps' Division of Plans and Policies in March 1942 sent Col Wethered Woodworth to make a further report on the subject, and a test was made at the San Diego, Calif., Marine Base to determine the practicality of Navajos as code talkers.

The test revealed that the Navajos who volunteered for the experiment could transmit the messages given, although with some variation at the receiving end resulting from the lack of exact words to transmit specific military terms. For example, "Enemy is pressing attack on left flank" would come out "The enemy is attacking on the left."

Proper schooling in military phraseology, it was

*Marine Corps Combat Correspondent.

believed, could correct this variation, and the following month the Marine Corps authorized an initial enlistment of 30 Navajos to ascertain the value of their services.

The enlistment order required that recruits meet full Marine Corps physical requirements and have a sufficient knowledge of English and Navajo to transmit combat messages in Navajo. The recruits were to receive regular Marine training, attend a Navajo school at the Fleet Marine Force Training Center, Camp Elliott, Calif., and then receive sufficient communications training to enable them to handle their specially qualified talent on the battlefield.

All the recruits spoke the same Navajo basically, but there were certain word variations. In Navajo, the same word spoken with four different inflections has four different meanings. The recruits had to agree on words which had no shades of interpretation, for any variation in an important military message might be disastrous. As might be expected in any group of youths, they were not equal in education or intelligence. Some of the military terms were very complex to the unschooled; all had to be able to understand them thoroughly in order to translate them into their native language. Some were not easily adaptable to communications work. It was difficult in several instances for non-Navajos to instruct the recruits in Marine Corps activities; a few marine instructors were unable to cope with the typical Indian imperturbability.

On the other hand, many of the recruits were well-educated, intelligent and quick to learn. A number had worked for the Bureau of Indian Affairs as clerks, and almost all the Navajos had the highly developed Indian sensory perceptions.

THERE were some recruits like PFC Wilsie H. Bitsie, whose father is district supervisor of the Mexican Springs, N. Mex., Navajo District. Bitsie became an instructor in the Navajo School at Camp Elliott for a time, and helped work out the much needed military terms. He went on to join the marine Raiders and at New Georgia his Navajo ability helped the Raiders maintain contact with the Army command at Munda while the marines knocked out Japanese outposts in the jungle to the north.

Other code talkers went with the Third Marine Division and the Raiders to Bougainville. There some manned distant outposts, maintaining contact in Navajo by radio. It was found best to have close friends work together in teams of two, for they could perfect their code talk by personal contact.

The men in their units learned that in addition to their language ability the Navajos also could be good marines. They could do their share of fighting and they made good scouts and messengers.

There had been concern in some quarters that dark-complected Navajos might be mistaken for Japs. In the latter days of the Guadalcanal action one Army unit did pick up a Navajo communicator on the coastal road and messaged the marine command: "We have captured a Jap in marine clothing with marine identification tags." A marine officer was startled to find the prisoner was a Navajo, who was only bored by the proceedings.

The code talkers went on into more campaigns, proving their ability, and the Navajo quota in the Marine Corps rose from 30 to 420. At their TBXs they transmitted operational orders which helped us advance from the Solomons to Okinawa.

It was found that the Navajos are not necessary at levels lower than battalions. For messages between battalions and companies the extra security is not required and speed is the paramount issue.

The III Amphibious Corps reported that the use of the talkers during the Guam and Peleliu operations "was considered indispensable for the rapid transmission of classified dispatches. Enciphering and deciphering time would have prevented vital operational information from being dispatched or delivered to staff sections with any degree of speed."

AT IWO JIMA, Navajos transmitted messages from the beach to division and Corps commands afloat early on D-day, and after the division commands came ashore, from division ashore to Corps afloat.

Last April authority was granted to establish a re-training course for Navajos at FMFPac. Under this plan, five code talkers are taken from each division to attend an intensive 21-day course which gives emphasis to plane types, ship types, printing and message writing, and message transmission. These Navajos then return to their divisions to instruct the remaining men. It is emphasized that code talkers work out successfully only where interest is shown by the command and where training continues between operations.

As for the Navajos themselves, they probably are not any more enthusiastic about the concentrated schooling than most young marines would be about schooling, for they are amused as being regarded as different from other marines.

On rare occasions, though, they do lapse into some typical Indian gyrations. Ernie Pyle, in one of his last dispatches from Okinawa, described how the First Division's Navajos had put on a ceremonial dance before leaving for Okinawa. In the ceremony, they asked the gods to sap the strength of the Japanese in the assault. The other marines looked on, interested and amused, but when the division reached Okinawa the Navajos pointed out the ease of the landing and reminded the division men of their pre-embarkation ceremony.

According to a later report, when the First Division met the strong opposition in the south of Okinawa, one marine turned to a Navajo code talker and said,

"O.K., Yazzey, what about your little ceremony? What do you call this?"

"This is different," answered the Navajo with a smile. "We prayed only for an easy landing." END

Prelude at Shimonoseki

By Sgt Eugene A. Cook, Combat Correspondent

THE U.S.S. *Wyoming* was hopelessly trapped. Her bow was imbedded in the mud of the swirling Straits of Shimonoseki. From the bluffs on shore, Japanese batteries poured a merciless barrage at the American warship's already battered hull. And now, as the *Wyoming's* engines screamed in a futile effort to pull her 997 tons back into deeper water, a Jap battleship was heading toward her under full steam for the *coup de grace.*

The *Wyoming* was a few tortured moments away from being rammed when her guns fired two shells at the enemy steamer.

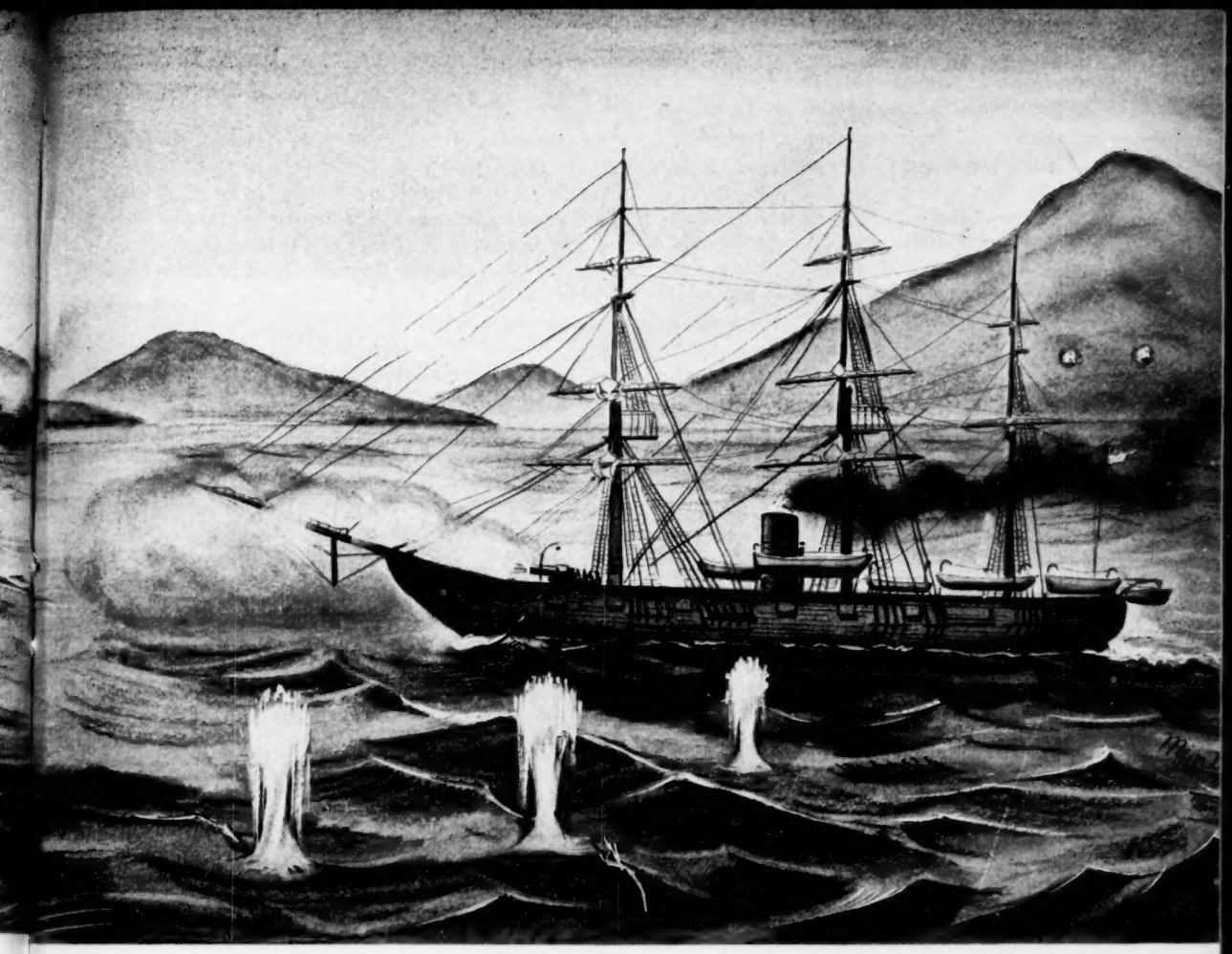
Those two shots turned the tide of the battle and of history. As surely as they exploded the Jap vessel's boilers, they also jolted early Japanese dreams of crushing the Occidental world. They gave the *Wyoming* time to free her bow, and the American warship went on to win a victory that is one of the most brilliant in naval annals. It also is one of the least known.

As one Assistant Secretary of the Navy said in an interview: "Had that action occurred at any other time . . . its fame would have been echoed all over the world." The Navy official was Theodore Roosevelt.

The date of the battle—the first armed conflict between the United States and Japan—was July 16, 1863, midway through the Civil War.

Nine years earlier, Perry had wrangled his famous commercial treaty from the Mikado. The accord did more than open Japan to the ideas and the dollars of the Western World. It started the flame of revolution flickering through the land.

Resentment against foreigners was deep-rooted. In Perry's time, hatred for the Occidentals had been demonstrated even in the streets, when common people—merchants, housewives and husbands —stopped American sailors and tried to prevent them from taking Japanese articles back to their ships, even after the Americans proved they had bought the goods and paid for them.



A shell from the *Wyoming* crashed through the Japanese ship and burst her boilers.

Many Japanese, particularly the more powerful clansmen, blamed the real ruler of Japan, the Shogun or Tycoon, who was the power behind the throne, for allowing foreign influence to tarnish Japanese soil.

Perry's treaty gave the clansmen the chance they were looking for to entangle Japan with foreign powers and thus cause the Tycoon loss of face—if not of head.

Open rebellion was threatened. The Tycoon tried appeasement. He got the Emperor to issue a proclamation expelling foreigners from Japan. This wasn't enough to satisfy the clansmen. Particularly not the Choshiu clan, one of Japan's most intellectual and warlike groups, led by the Prince of Nagato.

While Buddhists nearly wore out their rosaries invoking Kartikiya, the god of war; while Shinto priests called on the sea and storm to destroy the barbarians; while ordinary Japanese prayed for another Kamikaze, or Divine Wind, to come again and wreck the foreign ships just as it had wrecked the invading Mongol fleet in 1550, the Choshiu clan was taking even surer steps. It was heeding the war cry *Jhoi! Jhoi!* To arms! To arms!

Defying the Tokyo government, the Prince of Nagato had armed the Straits of Shimonoseki, a heavily-traveled artery of foreign commerce leading into the inland sea.

He also had managed somehow to gain control of three vessels which had been sold to the Tokyo government by Britain and the United States: the British steamer *Lancefield*, the American brig *Lanrick* and bark *Daniel Webster*. With these vessels and with seven batteries of two to seven guns each on the Straits, the Prince of Nagato was taking on the Occidental powers. And for almost a month he succeeded, until the *Wyoming's* visit.

On June 25, the day set by the Mikado for the ousting of foreigners, the American merchant steamer *Pembroke*, en route from Yokohama to Nagasaki, anchored in the Straits and waited for the tide to turn. Promptly, the *Daniel Webster* sailed up and dropped anchor. Later, the *Lanrick* also approached. The *Pembroke* had no warning when the Jap vessels and shore batteries suddenly opened fire at midnight. The amazed American skipper quickly hoisted anchor and escaped without damage through a little-used channel.

Before news of the attack could get back to Washington, and before orders could be sent to the *Wyoming* to punish the attackers, the cocky

Choshiu clansmen had expanded their private war with the West. They also had improved their marksmanship.

On July 8, two weeks after the *Pembroke* incident, the French dispatch boat *Kien-chang* anchored at the entrance to the Straits, waiting, as the *Pembroke* had waited, for a favorable tide. The shore batteries promptly cut loose. Seven shots struck the vessel. The unsuspecting French lowered a boat to ask why they had been attacked. The boat had hardly touched the water when it was hit by a shell and sunk.

This seems to have convinced the French that they weren't merely the victims of a nasty mistake in identity. The crippled vessel hobbled back to Nagasaki in sinking condition and reported the attack.

The Netherlands government sent a heavy cruiser, the *Medusa*, to look into these incredible goings-on. On July 11, the *Medusa* breezed into the Straits. Her reception was deafening.

Not only the shore guns, but also the *Lanrick* and the *Daniel Webster*, flying the flag of the Prince of Nagato, caught her in a devastating crossfire.

As shells splattered her decks with debris and ripped gaping holes in her hull, the Dutch are reported to have stood amazed at the accuracy of the Japanese. Their amazement apparently was so great that it never occurred to them to reply to the Japs. When the *Medusa*—a far heavier ship than the *Wyoming*—limped away from the Straits, her deck, hull and rigging were torn by 31 shellholes. Four of her crew were dead and five were wounded.

NINE days later, the French bounced back for another attempt to break the blockade. This time they sent a gunboat, the *Tancrede*. The gunboat took the Straits in high, racing through so swiftly that she didn't have time to fight, but not so swiftly that her hull wasn't perforated by three solid hits. What the French hoped to accomplish for themselves by this run-and-be-hit strategy is not made clear in contemporary accounts. But what it did for the psychology of the pugnacious clansmen is plain.

The House of Choshiu was beside itself. Drunk with the power of their new weapons—among them were two newly-invented Dahlgren guns presented to the Tokyo government as goodwill tokens by the United States and which, like the three warships, also had found their way mysteriously into the hands of the rebellious clansmen—jubilant at the thought of routing the hated foreigners with weapons of the western world, the Prince of Nagato's men were ready to take on anything that poked its nose into the channel. They had become what we now refer to commonly as "trigger-happy."

Little wonder that the next hapless vessel to enter the Straits was doomed beyond recall. Shortly after the French gunboat had been routed, a steamer boldly started through the fortified channel.

The shore batteries met this affront characteristically. They blasted her from stem to stern until she burned and sank. The bodies of nine officers and 19 seamen were swept out to sea by the swift current. The Choshiu warriors danced with glee. It was their most signal success to date.

Then one slightly disturbing bit of intelligence reached them. The ship they had mistaken for a foreigner actually was Japanese!

Meanwhile, the United States steam sloop *Wyoming*, with a complement of 135 sailors and marines, was on the alert off Yokohama. Commander David McDougal had a dual mission: to protect American citizens now imperiled there by the flaring anger at alien "barbarians," and to hunt Confederate ships preying on Union commerce. His was a lonely, dangerous vigil. The only other American man-of-war in the Pacific was the sailing sloop *Jamestown*, patrolling near Shanghai.

But McDougal was a man who thrived on danger. His men knew of such examples of personal courage as the occasion in Pensacola harbor when McDougal's ship, the *Natchez*, was surrounded by sharks waiting for their dinner of mess refuse. When a member of the crew fell overboard, McDougal promptly whipped off his coat, plunged into the water, kept the man afloat as he fought off the sharks and held him until a boat came to the rescue.

When news of the attack on the *Pembroke* reached McDougal, he hesitated even less than he did that day when he leaped into the shark-infested waters. Word was sent from Washington instructing McDougal to take whatever steps he thought necessary in the *Pembroke* affair. Those instructions were signed July 15. McDougal had set sail for the Straits two days earlier.

On his own, without charts, without intelligence on the strength and placement of the enemy fortifications, McDougal was moving on the "Gibraltar of the Japanese Mediterranean."

The treacherous Straits, at the western entrance to the inland sea, separate the islands of Hondo and Kiushiu. They are three miles long and a half-mile to one mile wide, but their navigable channel is only from 300 to 500 feet across. Dotted with sunken rocks and shoals, washed by swift tides that roar past the conical hills and bluffs at a five-knot clip, the Straits had piled up a huge toll of shipwrecks through the centuries. In short, the Japs had selected one of the strongest natural defenses possible to choke off Western commerce. Even the landmarks were gloomy. On one rocky ledge stood a monument to the Emperor Antoku, who had drowned in 1185 in a great sea battle between the Genji and the Heike.

On bluffs that towered 50 and 100 feet over the channel, the Prince of Nagato had placed his seven batteries. Most of the guns were 32-pounders. Also waiting for the American vessel was the Choshiu

clansmen's ship armament: four guns on the iron steamer, six on the bark and four on the brig, mostly 24-pounders.

As the *Wyoming* steamed toward the battle scene on the night of July 15, the odds were heavily against her. There were 48 cannon ranged against her six.

THE following day dawned clear and bright for the battle. There was a breathless, windless calm. It lasted until 11:10 a.m., when the American man-of-war sailed past the first promontory and drew the first Japanese shot. A shore battery blast tore through the rigging.

McDougal's men stood tensely at their battle stations, noting with misgivings that although they had shot high, the Japanese had lined their sights squarely with the *Wyoming's* engine room. McDougal held his fire until he rounded another bend in the corkscrew straits.

Now the *Wyoming* commanded a view of the town of Shimonoseki, a community of 10,000 inhabitants and hundreds of flat, mud-splattered wooden homes. She also commanded a view of the entire Japanese strategy. And she lay within range of all the shore batteries and the Jap squadron.

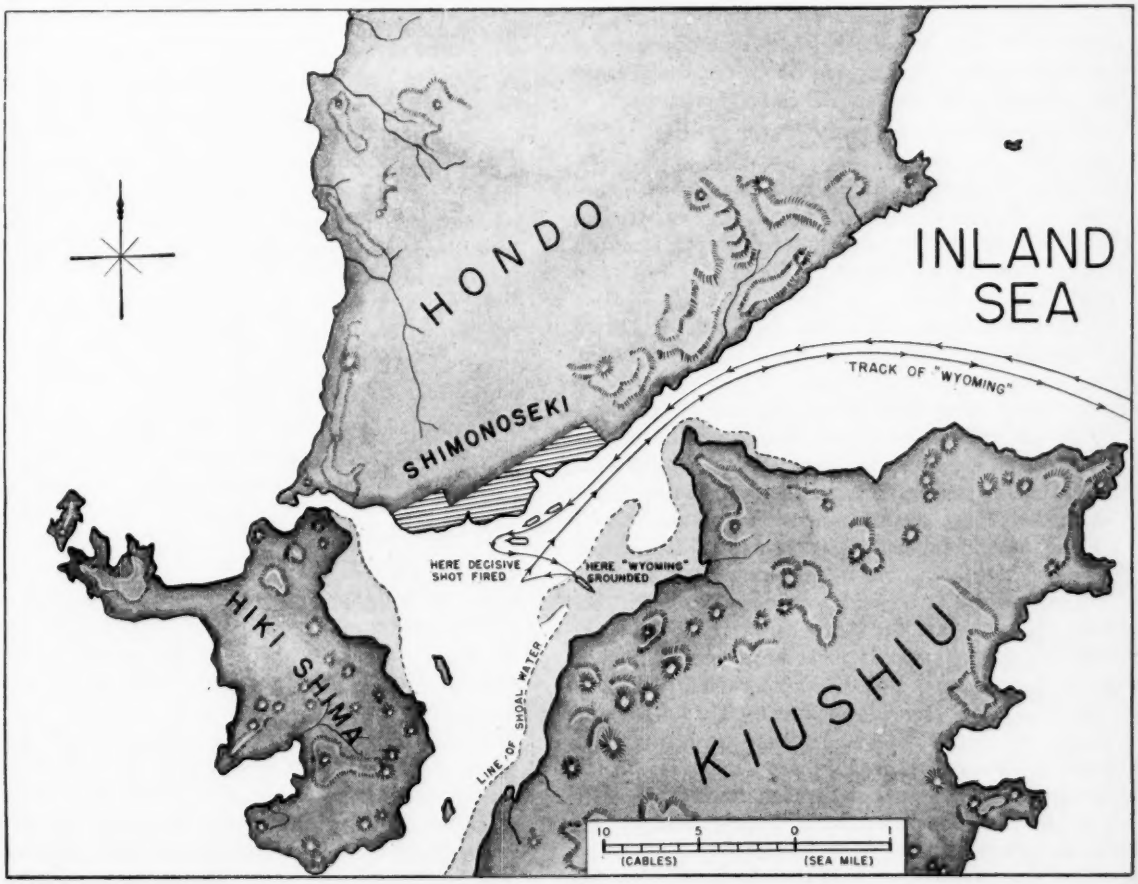
Close to shore, nestling just under the line of batteries, lay the enemy's *Daniel Webster*. Fifty yards beyond her was the *Lanrick*. And closest to the channel was the powerful *Lancefield* with steam up. All the vessels were equipped with kedge anchors and grappling irons. And their rails were lined with wildly shouting crews, shaking their fists, cursing and daring the Americans to come on.

McDougal made straight for them.

This was no blustering bravado. He had noticed a line of stakes near the center of the navigable channel. He guessed that they had been placed there as markers by the Japanese gunners, who then zeroed in their batteries on the stakes. McDougal cut far inside the markers, and racing ahead, with the tide adding momentum, he made for the northern shore, right into the teeth of the Choshiu forts.

The battle wasn't going according to Japanese plan.

That McDougal had guessed correctly the secret of the Jap gunners' accuracy was proved by the fact that they found it hard to bring their shells down from the *Wyoming's* rigging. By the time they realized the American warship was not following the main channel and lowered their sights, the Jap gunners confronted the ticklish job of hit-



ting an enemy ship that was cutting between their own vessels.

McDougal had unfurled his colors, a signal for the Japs to go nearly mad with rage. All their batteries cut loose at once. Then McDougal ordered his pivot and starboard guns to fire. Their first salvo blew a Jap battery to bits.

As the *Wyoming* came abreast of the enemy squadron, the *Daniel Webster* fired. A husky 23-year-old marine named Alexander Furlong saw the shell explode and kill two men stationed near the *Wyoming's* anchor. A moment later, a shell from shore struck near the gangway where Furlong stood. He fell dead. Two years after his enlistment, the former teamster from Maine had become the first American marine to die in action against the Japanese.

McDougal guided the *Wyoming* between the steamer and the two sailing vessels, his guns barking steadily. It took only one blast to cripple the *Lanrick*. The *Wyoming* raced past the Jap ship so quickly that, firing rapidly, the Jap ship batteries were able to get off only three broadsides. But the Japs were making their shots count.

One shell put all the crew of a 32-pound gun out of action except three men. The gun captain's arm was torn off. A seaman named Charles J. Murphy, seeing the gun's tackle torn away, bent new tackle on the gun, and, although seriously wounded, fought the weapon short-handed until a lieutenant named Barton sent him several men from his 25-man pivot gun crew. Shortly afterward, a shell fragment struck Barton's sword guard and bent it.

A coal heaver named Michael Lynch was hit by a shell which tore off both his legs. The stricken man hobbled half the length of the *Wyoming's* deck, complained about a "pain in my toes" and died.

After passing the Jap ships, the *Wyoming* started to turn to deliver another broadside. Just then, she ran aground.

If panic ever had reason to run through an American crew, this was the time. But McDougal's men calmly tried to force their ship into deeper water. The engines groaned and tugged in vain. Now the enemy steamer moved in for the kill.

The Americans could see the Japs shouting and brandishing their swords and grappling irons at the rail as the *Lancefield* bore down on them. She was going to ram the American warship.

Through their minds must have run their skipper's instructions: the *Wyoming* was to be blown up if capture seemed imminent. They knew the reason for McDougal's order. Jap torture methods were well-known even in those days. The officer in charge of the powder division stood by, waiting for the order to set off the suicide charge. The order never came.

As the *Wyoming* swung helplessly in the tide, McDougal ordered the engines reversed. In a few moments, the *Wyoming* was free. Quickly, McDougal barked a command to his batteries.

All guns concentrate on the steamer!

The second shell from the *Wyoming's* forward pivot gun crashed through the *Lancefield's* side, burst her boilers, tore out the other side of the Jap ship and exploded a quarter mile inland in the startled town of Shimonoseki.

The *Lancefield* went up in a cloud of steam and cinders. As the Jap ship sank with a loud hiss, the remnants of her crew leaped over the side and struggled in the raging currents. One native boat was seen pulling away from the sinking hulk.

The *Wyoming* turned her attention to the last remaining Jap vessel, the former *Daniel Webster*. A few shells from the pivot guns and that expatriate bark followed her sister ships to the bottom.

Now the *Wyoming* had a more even battle on her hands. Six ship's guns against six shore batteries.

Retracing her course back through the narrows, the *Wyoming* silenced one after another of the Jap forts. Some of the battery crews, seeing for the first time their own ships sinking and their own men drowning, and no doubt finding the *Wyoming's* accuracy disturbing, began plunging over their towering fortifications to the rocks below.

AT 12:20 p.m., 70 minutes after the first shot was fired, the *Wyoming* hove to and surveyed her wounds. She had been struck more than 20 times. There were ten holes in her hull and six in her smokestack. Four shots had hit both her main and foremasts. Her rigging was shredded. Four of her crew were dead and seven were wounded, one of them fatally.

The Prince of Nagato had lost almost all his shore batteries, and his entire three-ship navy with 18 guns. At least 100 Japanese were dead, and more than that number wounded.

It was a black day for the rebel prince. As the Americans began preparing a $125,000 bill for damages, the Japanese were rearming and looking forward warily to their next encounter with the "American Devils." The next time they would be better prepared.

There is proof that while the Western World scarcely knew of the *Wyoming's* valiant battle, the Japanese never forgot either the battle or their rebel Prince of Nagato, a defeated but, in their eyes, never disgraced leader.

The casual reader may not have noticed it among news dispatches of recent weeks. But one of the battleships which Admiral Halsey's fleet pounded near the Japanese homeland bore a proud name accustomed to being humbled by American arms. The battleship's name was *Nagato*.

Atomic Bomb

Here is the abridged text of President Truman's statement on 6 August announcing first use of the atomic bomb. Less than a week later Japan offered to surrender.

SIXTEEN hours ago an American airplane dropped one bomb on Hiroshima, an important Japanese army base. That bomb had more power than 20,000 tons of TNT. It had more than two thousand times the blast power of the British "Grand Slam," which is the largest bomb ever yet used in the history of warfare.

The Japanese began the war from the air at Pearl Harbor. They have been repaid manyfold. And the end is not yet. With this bomb we have now added a new and revolutionary increase in destruction to supplement the growing power of our armed forces. In their present form these bombs are now in production and even more powerful forms are in development.

It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its powers has been loosed against those who brought war to the Far East.

Before 1939, it was the accepted belief of scientists that it was theoretically possible to release atomic energy. But no one knew any practical method of doing it. By 1942, however, we know that the Germans were working feverishly to find a way to add atomic energy to the other engines of war with which they hoped to enslave the world. But they failed. We may be grateful to Providence that the Germans got the V-1s and the V-2s late and in limited quantities and even more grateful that they did not get the atomic bomb at all.

The battle of the laboratories held fateful risks for us as well as the battles of the air, land and sea, and we have now won the battle of the laboratories as we have won the other battles.

Beginning in 1940, before Pearl Harbor, scientific knowledge useful in war was pooled between the United States and Great Britain, and many priceless helps to our victories have come from that arrangement.

* * *

THE United States had available the large number of scientists of distinction in the many needed areas of knowledge. It had the tremendous industrial and financial resources necessary for the project and they could be devoted to it without undue impairment of other vital war work. In the United States the laboratory work and the production plants, on which a substantial start had already been made, would be out of reach of enemy bombing, while at that time Britain was exposed to constant air attack and was still threatened with the possibility of invasion.

For these reasons Prime Minister Churchill and President Roosevelt agreed that it was wise to carry on the project here. We now have two great plants and many lesser works devoted to the production of atomic power. Employment during peak construction numbered 125,000 and over 65,000 individuals are even now engaged in operating the plants. Many have worked there for two and a half years.

Few know what they have been producing. They see great quantities of material going in and they see nothing coming out of these plants, for the physical size of the explosive charge is exceedingly small. We have spent $2,000,000,000 on the greatest scientific gamble in history—and won.

* * *

WE ARE now prepared to obliterate more rapidly and completely every productive enterprise the Japanese have above ground in any city. We shall destroy their docks, their factories, and their communications. Let there be no mistake; we shall completely destroy Japan's power to make war.

It was to spare the Japanese people from utter destruction that the ultimatum of July 26 was issued at Potsdam. Their leaders promptly rejected that ultimatum. If they do not now accept our terms they may expect a rain of ruin from the air, the like of which has never been seen on this earth. Behind this air attack will follow sea and land forces in such numbers and power as they have not yet seen and with the fighting skill of which they are already well aware.

* * *

THE fact that we can release atomic energy ushers in a new era in man's understanding of nature's forces. Atomic energy may in the future supplement the power that now comes from coal, oil, and falling water, but at present it cannot be produced on a basis to compete with them commercially. Before that comes there must be a long period of intensive research.

It has never been the habit of the scientists of this country or the policy of this government to withhold from the world scientific knowledge. Normally, therefore, everything about the work with atomic energy would be made public.

But under present circumstances it is not intended to divulge the terminal processes of production or all the military applications, pending further examination of possible methods of protecting us and the rest of the world from the danger of sudden destruction.

I shall recommend that the Congress of the United States consider promptly the establishment of an appropriate commission to control the production and use of atomic power within the United States. I shall give further consideration and make further recommendations to the Congress as to how atomic power can become a powerful and forceful influence toward the maintenance of world peace.

END

Fire Power in Cave Warfare

Hard won on the Okinawa battlefield, this answer to Japanese underground defensive tactics is a valuable addition to our military knowledge.

By MajGen Pedro A. del Valle

IT is fitting that the effects of the various arms upon which we depend for fire power be evaluated in the light of recent experiences in Okinawa, where cave warfare was employed to the maximum by the defense. The subject is one of which much can be written. But people are too busy nowadays to read long essays, so the attempt is made here to condense as much as possible. In a few pages one may present the outstanding points, and from these one may draw reasonable conclusions.

The three principal agencies which contributed our fire power, the field artillery, the navy, and the air force, will each be considered separately and the conclusions drawn can then be made to apply accordingly. It will be best to begin with the field artillery, since that is the normal support arm, and the one to which the infantry turns first of all for its fire support. The field artillery commander was charged with the coordination of all three sources of fire power, and I believe this is a correct practice, since one should not normally call for naval gunfire until the possibilities of field artillery have been exhausted, nor upon air fires until the other two have been considered and the mission found impracticable or unsuitable for their weapons. The proper management of a Target Information Center will enable the artillery commander to evaluate targets and find the proper solution for their destruction or neutralization by the appropriate arm.

The problem of caves in the forward slopes of a position is the easier of the two. Here the situation calls for (a) the destruction of the caves or (b) their neutralization to enable tanks, infantry, flamethrowers or demolition teams to close in comparative safety to attack the caves directly. Destruction of caves is difficult because of the rock in which they are dug, and because the enemy, by ingenious design, has made these cave positions into fortresses, comparable to the Maginot fortresses, with deep, intricate galleries that are entirely beyond reach of ordinary artillery fires. Destruction of the entrance is possible, but the enemy has often made various entrances, and generally vents also, so that suffocation in these positions is not easy. Even after entrances have been blown up with demolition charges the enemy has been able to dig himself out. To accomplish even the destruction of the cave entrance, field artillery must employ precision methods with the greatest calibers available. A TOT, or any area fires whatsoever, will be entirely ineffective for this purpose. For the purposes of neutralization, on the other hand, the massing techniques are effective. But neutralization, to be effective, requires two things: (a) the artillery must maintain it to the last moment before the infantry closes; (b) the infantry must risk losses to follow the artillery fires as closely as possible. These are old accepted facts, and nothing in this campaign has altered them, although too often they were ignored by one or both arms. We conclude that only calibers greater than the 105 can have any effect in cave destruction, and that precision methods are essential for this purpose. Also we conclude that neutralization is simpler and more easily accomplished, and that all the available calibers, employing massing techniques, are suitable for the purpose. Under such a blanket of fire the enemy cannot employ his weapons, but must seek the protection of the cave for himself and his weapon. Time fire has been used with good effect in neutralization of both forward and reverse slope positions.

The problem presented to the fires of field artillery by the reverse slope caverns is more formidable than that presented by those on the forward slopes. Here your ground observation is useless, and you must depend upon air observation entirely. No matter how "high angle" your fires, they will seldom reach back into the caves, even for neutralization of caverns on reverse slopes. Destruction fires were, of course, not practicable. It is concluded that the most that field artillery can accomplish in the case of reverse slope caves is a partial neutralization, using massed fires, all calibers, time fires, high angle.

Naval gunfire reached great intensity and accuracy in this campaign, and its employment in the treatment of the subject caves was highly successful. Its inherent difficulty lay in its relatively flat trajectory. Again, in the destruction fires against caves, precision methods are essential, while massed or area fires were of little value. Against personnel and other targets their massed, or area fires were very successful. Their employment in missions requiring close neutralization is not recommended.

But the mobility of the ships gave their fires a flexibility which enabled them to reach reverse slope positions for both destruction and neutralization purposes with great ease. For destruction, direct fire was needed by ships in position with line

Three agencies used against caves are (1) naval gunfire (2) planes (3) artillery.

of fire normal to the enemy ridge. For neutralization it was sufficient to have the ship in defilade firing position, i.e., line of fire parallel instead of normal to the target ridges.

As with the field artillery, the larger calibers, 8 inches and above, were the destruction fire weapons, while all calibers were effective in neutralization missions. Likewise, the destruction missions were best accomplished with ground observation, although in the reverse slope cases this was impossible. For destruction of enemy cave positions in reverse slopes, the best weapon was the heavy ship's gun, used with precision methods, usually single gun or two gun salvoes, and using the best ship or air spot available. It was found expedient to anticipate targets, so that ships could take them under fire even if the line of fire was directly into our own lines, the range being great enough to ensure safety. If we waited too long, until our infantry was close, it was seldom practicable to employ their fires in this manner. When ships could use their own ship's observation and fire control stations for direct fire against any target, their fires were almost 100 per cent effective. This condition obtained in the southern part of Okinawa, where the enemy had prepared his last ditch positions. One may conclude that, whenever ship's gunfire is susceptible of being employed against cave positions, it should be so employed, for the effect is deadly.

THE great part played by aviation throughout is acknowledged by all. We are obliged by our pledge to brevity to confine our discussion to its effectiveness against cave fortresses in forward and reverse slope positions. In the case of forward slopes, whenever these could be reduced by field or ship's artillery, the air weapons were not employed. Where deeper targets had to be engaged simultaneously for destruction or neutralization, all fire power did splendid work. It was in these back areas and especially in inaccessible positions that air fire power did its most effective work.

Destruction of cave positions by missiles which fall nearly vertically is not possible. If skip bomb tactics had been used to hurl bombs into the mouths of caves they might have been effective. This technique would require extreme accuracy and was not, to my knowledge, employed. So the air bomb, as a destruction weapon can be said to be relatively ineffective in cave warfare. As an agent of neutralization, however, its effectiveness is great. A valley, or swale, heavily bombed, is neutralized by the effect of fragmentation and concussion on exposed personnel. To keep it neutralized you may send in your planes, a few at a time, making dry runs, strafing, or dropping an occasional bomb. The uncertainty will keep the enemy under cover. Supplementary fires by field artillery or NGF can maintain this neutralization.

Rockets, while possibly effective in sealing up the mouth of a cave by a direct hit, are not yet sufficiently accurate for the targets offered. It may be concluded that they, too, are good only for neutralization of caverns. Their advantage lies in the mobility of the airplane, which can send its missiles into the target from any angle, thus reaching difficult places not accessible to other arms, such as caves in reverse slopes. The same may be said of strafing. It will neutralize cave defense, but will not destroy the caves.

In extremely inaccessible places, where the caves occur in the walls of a fissure in the rocky defense ridges, the employment of incendiary liquids dropped by planes has been of great value. This, again, requires considerable accuracy, and close coordination with ground troops; the results can be decisive only when the area lends itself to this form of attack.

In summary, we may state that the air weapons are mostly effective in neutralization missions in cave warfare, and that seldom can they be used for destruction missions. In neutralization missions it is also necessary to point out that the inherent difficulties of getting an air strike up and on the target on schedule can be reduced materially if the air force in question is employed solely on infantry support missions. If these airplanes are subject to sudden calls for other missions, it means that infantry cannot count upon the delivery of the desired fires on time, and it is sometimes better not to arrange for them at all, for infantry must move into new areas while the enemy fires defending them are kept down by neutralization. To find out at the last moment that an air strike has been cancelled or delayed, due to the employment of the planes on other duty leaves the infantry in an awkward position. The obvious recommendation is that the portion of the air force assigned to direct support of infantry be kept free of other commitments, at least until a scheduled mission has been completed.

We come now to the consideration of self propelled artillery, both armored and unarmored. In the first category, for purposes of this discussion, comes the tank. In cave warfare this instrument becomes all-important. It is not an exaggeration to say that, under certain conditions, it becomes the main arm, and that infantry (and artillery) must support the tanks rather than the other way around. This is true in the case known colloquially as "processing." Processing is the operation of entering a draw to destroy and silence all of its cave positions and defenders in order to enable the infantry to advance from one ridge to the next. Tanks, ordinary and flamethrowing, are at present the most effective means of combat against the caves. They are invariably protected by infantry which should have no other mission, by engineers who sweep mines and employ demolitions, and by artillery operating in direct support, with fires directed by FOs who have observation, or who accompany the tanks, inside or out. Flamethrower tanks

In the last analysis it is the infantryman who must advance and take the ground.

are usually called into action by the gun tanks, where these have found a target and have sufficiently neutralized it to enable the flamethrower tank to advance without too much danger. Then two or more gun tanks stand by, keeping the necessary targets neutralized until the flamethrower tank pours it into the designated cave. Ordinary caves without too many corridors are effectively "processed" in this manner, but more generally the services of a demolition crew are required to complete the sealing of the position.

If the tanks could carry a large caliber gun they might themselves be able to seal up many more caves than is now the case. The conclusion is that large, armor-piercing weapons fired from tanks are the most effective weapons against defenders of cave positions. A limitation imposed by weight and size prevents us from developing the idea to its logical conclusion. The employment of a 90-mm tank, whose weapon is of the type required for this work, would be an enormous improvement over the 75-mm tank. The 105-mm tank is overruled by the nature of its weapon.

Other self propelled artillery is generally ruled out because it lacks armor to protect itself from destruction and its crew from neutralization. A self propelled 155-mm gun, using direct fire and short range, can eat through most caves and seal them. However it immediately becomes the target for every weapon the enemy can bring to bear upon it and hence must displace quickly into cover after each mission. It is the best weapon for attacking the caves, but has the above limitations and in addition cannot be used on the reverse slope positions as can the tank.

Various new weapons of a nature that renders them available to the infantry in these situations are under development. Their use will give the foot troops something better than the present 37-mm (or even the 57-mm), the bazooka or the rocket launcher for cave combat. It is still the infantry which must do the advancing and the taking of the ground. It is the same arm which, when protected and supported by other arms, is the most effective agent against caves. If a man can crawl up with a satchel charge to the cave entrance he can really render it useless for a long time. But the mutually supporting nature of these cave defenses renders such an act extremely hazardous, even under cover of smoke or darkness. Weapons such as recoilless guns of various calibers in the hands of the infantry could be of immense value in this type of operation. The flash must, however, be hidden when possible, or the position of the piece altered after each mission, for it will draw heavy enemy fire.

In general conclusion of this short discussion it may be said that in cave warfare we need all the fire power we can get from all the arms that can give it. There is no quick and easy solution, nor are all the problems alike. Experience and careful study of the terrain and of the particular situation confronting us will indicate the best method. The value of fire power has not been reduced in any way by the experiences of this campaign. But special problems like Fort Eben Emael require that special means and methods be devised. Flexibility of mind on the part of the leaders will enable them to try something new when the ordinary methods do not succeed. While not precisely pertinent to this discussion, it may be well to remark in closing that a position held in strength by the enemy should always be examined from the point of view of how to reduce it, capture it, or bypass it with the least expenditure of men. Do not plaster the landscape with indiscriminate fires, thus wasting your fire power, but do employ your fire power lavishly to save your men. War is still a matter of "fire and movement." Intelligent use of both is essential for success against cave positions as against any other type of defense. END

Field Artillery for the Infantry

By Col Marvin H. Floom

THE days of recoilless field artillery weapons are here. Going back to the early history of field artillery weapons, one of the major ordnance problems was that of overcoming or at least making provision for the recoil of the piece. The commonly known and basic principle of physics—"To every action there is an equal and opposite reaction"—had to be considered. To project a missile at velocities high enough to travel straight and true to its mark, a force in the opposite direction is generated. In small arms this force is commonly referred to as the "kick" of the weapon. In artillery and naval guns of larger caliber, it is called recoil.

In the earlier artillery and naval pieces, recoil was absorbed by allowing the entire carriage to move to the rear on the wheels. To resist this force, the general construction of the piece had to be of a very heavy and cumbersome type. Later developments introduced various complicated recoil systems involving springs, pistons and cylinders.

The 57-mm and 75-mm recoilless rifles are two new weapons which have now been battle tested in both the European and Pacific theaters, and the results obtained are most gratifying. These new weapons embody all the principles of standard field artillery, but the recoilless element makes the ponderous recoil mechanisms of field artillery no longer necessary. Since they are light enough to be transported by two men, heavy-wheeled carriages are not needed. The 57-mm rifle weighs only 45 pounds and the 75-mm 110 pounds. The 57-mm rifle, which is 61 inches long, fires a high-explosive shell weighing nearly three pounds a distance of two miles. The 75-mm rifle, 82 inches long, fires a 14-pound high-explosive shell more than four miles. Both rifles shoot with the accuracy of a sniper's weapon. There is absolutely no recoil in these new guns. Although they resemble rocket weapons, they use conventional artillery shells. The normal recoil is absorbed by allowing a controlled portion of the propellent gases to escape through openings in the breech of the gun. The force required to drive the shell through the rifled gun tube is exactly counterbalanced by the gases emerging through these openings.

The 57-mm recoilless rifle can be fired from the shoulder in either the standing or sitting position, or from a small bipod attached to the gun, with the gunner lying prone on the ground. The 75-mm is fired normally from a standard machine gun tripod. One man can handle a 57-mm weapon if necessary, but normally one aims and fires the rifle while the other man loads it. The tentative squad in army organizations for the two weapons consists of five men for the 57-mm and ten men for the 75-mm. Telescopic sights on both weapons allow the rifles to be fired with great accuracy. A panoramic sight is provided on the 75-mm and can be used in indirect fire. The rifles are simple to operate and the gunner requires little training.

In the employment of the weapons, there is one feature which must be considered that is new to the troops. When fired, the weapon creates a back blast to the immediate rear of the position, which can produce casualties. For the 57-mm the critical distance is 10 yards and for the 75-mm about 20 yards. Further, the blast will quite readily disclose location of the pieces to the enemy and it is necessary to have alternate positions selected to which displacement must be made quickly after firing a mission.

Since the weapons can be employed in the front lines, they are extremely effective in cave type warfare. Quick, accurate and effective fire can be brought to bear upon cave openings, bunkers and pillboxes. Further, as an antitank weapon, they have no mean ability.

IN THE bitter fighting on the rough terrain of Okinawa, these new weapons received their acid test. Japanese sniper and pillbox positions made it impossible to emplace standard field artillery weapons in many sectors where only artillery fire would have been effective. Infantry carried both the 57-mm and the 75-mm into these position.

The men who use these recoilless weapons have this to say about them: "The effective range for the gun for direct firing is the range of visibility. It is as accurate as an M1 rifle, and you can hit a tank any place you desire. Six hundred to a thousand yards would be an ideal distance for firing against a tank."

At this writing, the final approved organization of personnel for and distribution of the new weapons has not been fixed in Marine Corps units. However, comprehensive tests have been conducted and official approval of the program is expected in the very near future.

Throughout the present war, the American soldier has been supplied with the only successful semi-automatic shoulder weapon in the world—the M1 rifle. Additional fire power was supplied him in the way of machine guns, submachine guns, hand grenades, rifle grenades, bazookas and mortars. Now these new weapons developed by the Ordnance Department have put into the hands of the infantryman the striking power of field artillery. The new developments mark another step in the traditional U. S. Army system of giving the American soldier superior fire power. They mean that field artillery can now be placed where every infantry soldier can go without considering terrain or highways.

6thMarDiv in Southern Okinawa

The Sixth fought across the Asa River, won a critical battle at Sugar Loaf Hill, took Oroku Peninsula by surprise, then broke across the Kunishi line. *By 1stLt Alan I. Shilin*

FOR 82 bloody days Okinawa, in the arcuate-shaped Ryukyu Island Chain, rocked and shuddered under the impacts of a great strategic battle. On the 82nd day, marines of the Sixth Division raised the American Flag on Kiyamu Ridge at southernmost Okinawa, even as they had done in mountainous Northern Okinawa approximately three weeks after landing.

During those bitter 82 days the American TENTH ARMY and the Japanese THIRTY-SECOND ARMY locked in a desperate struggle over jagged coral ridges. This was a battle in which the commanders of both armies gave their lives, together with multitudes of their men.* The hundreds of thousands of U. S. marines, soldiers and sailors, and the Japanese and Okinawan soldiers and sailors who participated, well knew that it was the prelude to the Battle of Japan, the beginning of the end.

After 82 days, approximately 100,000 Japanese and Okinawan troops lay dead. More than 3500 Japanese, Okinawans, and Koreans had been captured. Six enemy airfields had fallen into our hands approximately 400 miles from Kyushu. The Port of Naha had been opened. The fleet anchorage of Nakagusuku Wan was available to the U. S. Navy.

Throughout the operation, MajGen Lemuel C. Shepherd Jr.'s new Sixth Marine Division played a prominent role. The Jap commanders appreciated that the infantry division lunging through Northern Okinawa would soon be called south to help break the stalemate in the south. When the Sixth broke the vaunted Naha-Shuri-Yonabaru Line between the 10th and the 14th of May and Naha lay exposed under the rifles of the 22d Marines, the following newspaper article was printed in Naha.

**"From strong positions our army battles mightily.

"This Sixth Marine Division is a fresh unit. Among the badly-mauled enemy it is a tiger's cub and their morale is high. Therefore in the heart of Shuri our forces and the enemy will lock in a mortal struggle that will gradually mount in fury. If we deal the Sixth Division a mortal blow, we probably will be able to control the enemy's destiny. The fierce attacks of our strong bold troops, knowing no distinction between night or day, will daily inflict great damage on the Sixth, and before long they will probably be annihilated. With a final effort the situation will progress to our advantage."

The Japs' rating of the Sixth was proven correct beyond their worst fears. Here is what the Sixth accomplished:

1. Captured part of Naha, once a city of 60,000 inhabitants and the largest Jap city occupied in the war.
2. Captured Naha Airfield on Oroku Peninsula, one of the most important prizes in the Ryukyus. It was an important ferry stop for Japs flying south toward the Indies, Formosa, Malaya, the Philippines and South China.
3. Captured Yontan Airfield, the second major airfield on Okinawa, the Unten Ko midget submarine base and vast stores of equipment and supplies.
4. Captured more than two-thirds of the physical land area of Okinawa.
5. Killed more than 20,000 Jap troops and captured more than 2800.
6. Broke the Naha-Shuri-Yonabaru Line, won the critical battle of Sugar Loaf Hill, and again broke the enemy line at Mezado Ridge.

WHILE the 6thMarDiv was conquering the central and northern segments of Okinawa, following the landing of the TENTH ARMY on 1 April 45, the XXIV Army Corps moved south.

The enemy had not chosen to defend at the shore-line. Sobered by his beach experiences in the war, the Jap decided to select his own terrain and to fight on his own terms. As the XXIV Corps probed its way southward from the Kadena Area, the Japanese THIRTY-SECOND ARMY was drawn up in strength along the Naha-Shuri-Yonabaru Line. Contact was made along this line during the closing weeks of April. The XXIV Corps attacked along the Line, causing that series of high coral barriers to burst into flame from the Pacific Coast on the east to the China Sea Coast on the west. But the enemy held firm.

The Jap had selected his terrain carefully and laid his defenses systematically. He based his tactics on the terrain and the weapons at his command. He had a clever, complete and well-rehearsed plan. His line was based on three natural barriers north of Shuri: the River on the northwest, the Shuri Hill Mass on the north, and the Yonabaru Hill Mass on the northeast. Each was formidable in itself, and each was well tied in on the flanks either with the sea and the central hill mass, or with each other. With Shuri as the nu-

LtGen Simon Bolivar Buckner and LtGen Mitsuru Ushijima.

**TIME MAGAZINE, *issue of 21 May 1945.*

The Jap emplaced his artillery in caves.

cleus of his defense, his lines of supply and communications were short and comparatively equidistant. The Jap's artillery was scattered and emplaced in caves so as to negate our counterbattery fire, and yet, the guns were centrally controlled. The dominating terrain provided him with excellent observation of our rear areas as well as of our forward area.

In the high coral ridge facing the Asa River and in the Shuri and Yonabaru Hill Masses, the enemy had carved elaborate defenses into the coral. Hillocks were hollowed out, leaving them interlaced with caves, storage chambers, corridors and gun ports. Defensive positions were mutually supporting and in such quantity as to provide the enemy with alternate and supplementary positions.

Defending this line were fresh, Manchurian-trained troops under excellent leadership and swollen by Okinawan Boeitai (Home Guards) who knew every inch of the terrain, and who had been trained in defensive tactics.* The enemy had taken pains to develop his artillery and he had worked out effective antitank tactics.

Trained tank-hunter teams of Japs carrying small arms and satchel charges approached our tanks unobserved. Then, during the fire fight between members of the team and our infantry, a satchel charge was thrown at a tank. These teams had made a thorough study of the vulnerable points of our tanks. Antitank mines were used extensively, as were the enemy's high-velocity 47-mm guns.

The XXIV Corps struggled vainly to break the Naha-Shuri-Yonabaru Line during the closing weeks of April and the first week in May. To prevent the ebbing of offensive pressure, Gen Buckner ordered the III Marine Amphibious Corps to move into the lines on the right of the XXIV Corps.

The 1stMarDiv moved into the Machinato Airfield Area, just north of the Asa River, approximately on 1 May. This relieved the 27th Army Division, which in turn went north to relieve the 6thMarDiv and take over the duties of garrisoning the central and northern part of the island.

The 6thMarDiv placed all its agencies for the control of guerilla warfare in the hands of the 27th. Prior to the movement south of the 6thMar Div, it was known that approximately 200 Japanese troops remained in the northern area. These troops were broken and disbanded, but their organizing potentiality needed to be reckoned with.

On 9 May, the Sixth moved into the lines above the Asa River on the extreme right flank, permitting the 1stMarDiv to shorten its lines. The Sixth, in a column of regiments with the 22d Marines facing the Asa River and in contact with the enemy, scheduled an attack for the morning of the 10th. The 1stMarDiv was on the left of the 22d Marines. The XXIV Corps was on the left of the 1stMarDiv.

The 22d Marines faced the formidable obstacle of the shallow, swampy, brackish Asa River. Directly south of the river was a high coral ridge containing enemy positions which could sweep the entire Asa Basin with automatic fire. Grenade discharger and mortar positions on the reverse slope of this ridge had been set up with plotted fire-charts. Enemy artillery in the vicinity of Shuri and on Oroku Peninsula could fire directly at any point along the river as well as harass areas further to the rear.

It is significant to note that throughout the entire Battle for Naha, from 10 May until approximately 24 May, the enemy had complete observation of the west coastal road from the Shuri Hill mass. This road was the main supply artery used by the Sixth throughout the battle. It received continuous harassing fire.

ON 10 May, the 22d Marines jumped off. The lone bridge across the river had been repaired by the 6th Engineers during the night, permitting the infantry to pour across and attack the wall of enemy pillboxes, caves, and covered emplacements immediately south of the river. The enemy strove to keep the bridge out and destroyed it once by using suicide-demolitions personnel. But the 6th Engineers again repaired the bridge and the fighting swept forward up the barren ridge. The enemy's defenses and the effectiveness of his

**When it appeared evident to the enemy (between 30 April and 7 May) that the 6thMarDiv would be committed in the lines rather than in an amphibious operation behind the enemy's lines, the enemy committed the 44th Independent Mixed Brigade to bolster his Naha-Shuri-Yonabaru Line. The 44th Independent was the enemy's first-class reserve. It went into the Line on 8 May. The 6thMarDiv was committed on 8-9 May, and attacked on the 10th.*

Marines built a temporary bridge to Naha.

A 6thMarDiv tank blazed a flaming trail.

artillery required that the 22d Marines systematically eliminate each of the numerous positions on the face of the ridge by squads and fire teams. The enemy's caves and tombs (which had been converted into pillboxes) proved to be impervious to artillery and naval gunfire, except in the event of a direct hit. Enemy positions were reduced primarily by infantry fire teams working independently or with armor. Caves were sealed either by direct fire from tanks or by demolitions.

During the days and nights from 10 to 13 May the battle raged along the Asa River Line. But by 14 May, the 22d Marines were securely entrenched on the reverse slope of the coral ridge that had once been a segment of the Naha-Shuri-Yonabaru Line. Marines had reached the Asato River, below the ridge and directly north of Naha. From the heights and along the banks of the Asato, the 22d Marines looked down on levelled Naha, conscious of the fact—as was every American, Jap and Okinawan—that the line had been broken.

To the credit of the 22d Marines went the annihilation of the 2d Independent Bn and the 2d Bn, Fifteenth Independent Mixed Regiment.

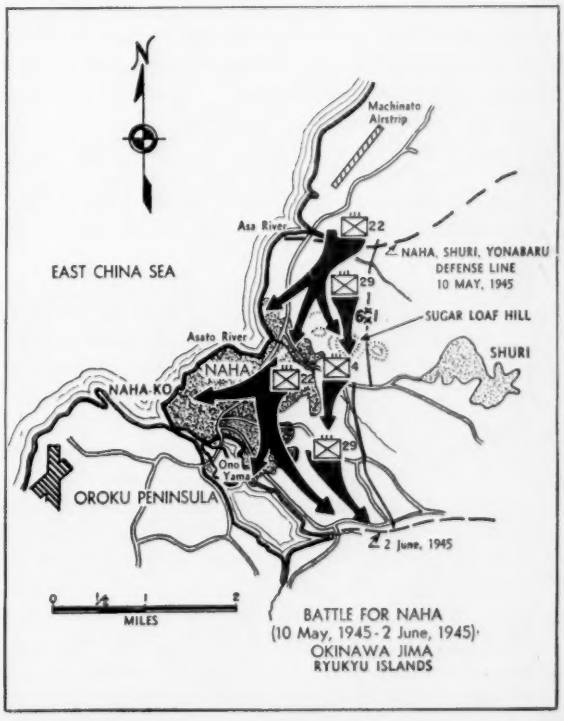
As the result of the break-through of the 22d, the 6thMarDiv's left flank had become extended and exposed.

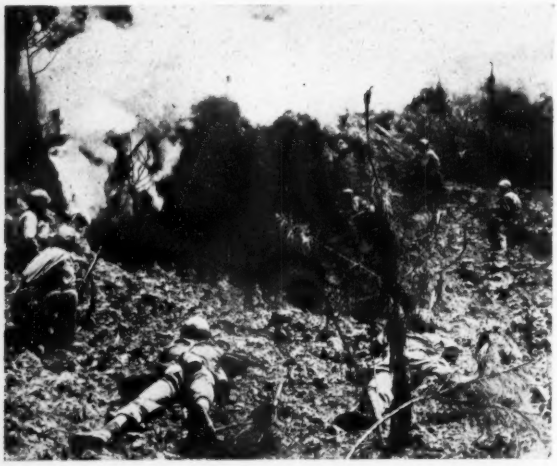
It was necessary therefore, that the Division exploit the break-through by broadening its front along the Asato. The 29th Marines was committed on the Division left and strove to reach the Asato to the east while the 22d Marines held fast.

The Jap decided to make his strongest effort in the vicinity of Sugar Loaf Hill, northeast of Naha. He appreciated the necessity of preventing the 6thMarDiv from drawing up along the Asato on a two-regiment front. Consequently, he chose the most defensible terrain north of the Asato for his stand. The enemy saw the developing struggle at Sugar Loaf as a critical battle. If he could stop the 29th Marines, whose mission it was to take this hill and push forward to the Asato, he would have checked the break-through begun by the 22d Marines at the Asa. If he failed to check the 29th at Sugar Loaf, the 6thMarDiv would reach the Asato on a two-regiment front which would mean either a drive into Shuri up the Asato River Corridor or a continued drive south to outflank the Naha-Shuri-Yonabaru Line. This would mean the fall of Naha and the end of the enemy's powerful line.

The enemy therefore threw his strength into the Battle of Sugar Loaf Hill.

DURING the period roughly from 14 May to 19 May, the Battle of Sugar Loaf Hill was in





It was necessary to blast the Jap out of caves that formed the line defending Naha.

progress. The hill was initially reached and attacked by a battalion of the 22d Marines. The 29th Marines relieved the battalion of the 22d Marines at the hill, attacked it, took it, and were driven off by fire. It regained the hill and lost it 11 times.

The defense of Sugar Loaf was brilliant and effective. The Jap had constructed heavily revetted cave positions on the southeastern (reverse) slope of the hill. Each had platforms from which grenade discharger fire could be delivered on the crest and forward slope. The enemy also had 47-mm AT guns and AT mines covering the flanks of the hill to prevent tank-infantry teams from sweeping around and attacking the reverse slope. Again, it must be considered that the entire division left flank had been extended and exposed as the result of the 22d Marines' break-through. Therefore, from the Shuri Hill Mass, along the length of the exposed division flank, the enemy was able to deliver enfilade fire. Finally, the enemy had complete observation from his Shuri Hill mass and rendered direct artillery fire against our infantry and tanks.

DESPITE these difficulties, the 29th Marines fought its way up the hill and swept down the reverse slope. The regiment was exposed to small arms fire, machine-gun fire, mortar fire, 20-mm fire, 47-mm AT fire, and artillery fire throughout the entire battle. The greatest proportion of this fire came from areas which lay beyond the reach of the regiment.

When the hill was secured, the 29th was relieved by Col. Alan Shapley's Fourth Marines, who took over on 19 May.

On 20 May, the enemy launched a major counterattack in the general vicinity of Crescent Hill (lying southeast of Sugar Loaf Hill) in a last desperate effort to regain Sugar Loaf and to check the drive to the Asato. Instead of the depleted 29th Marines, the enemy met the fresh Fourth Regiment.

The counterattack was preceded by 90 minutes of intense mortar and artillery preparation. Then, approximately 500 Japs attacked. The Fourth Marines counted 494 enemy dead in front of its lines the following morning. The Fourth Marine defense had been strongly supported by the 15th Marines and by other artillery. No penetration of any significance was achieved by the enemy.

By 22 May, both the Fourth Marines and the 22d were drawn up along the north bank of the Asato. The battle had been fought and won.

Sugar Loaf had cost the enemy two infantry battalions, the remnants of the third infantry battalion, an antitank battalion, a service company, and more than 300 naval troops. The battle also had cost the enemy his Naha-Shuri-Yonabaru Line.

With his situation now untenable, Gen Ushijima had no alternative but to quit the one position that he had been able to defend. Okinawa was lost and the Jap knew it. All he could do was to withdraw to the south to a final defensive line he could not expect to hold more than six weeks.

As the result of the position that the 6thMarDiv was now in; as the result of the losses that the Japs had suffered at the hands of the 22d, 29th, and Fourth Marines; and as the result of a subsequent break-through in the vicinity of Yonabaru scored by the Seventh Army Division, the Jap commenced on or about 20 May to move the remnants of his forces south to the Yaeju Dake—Yuza Dake—Kunishi Area. That movement continued to accelerate until 27 May, when mass movements occurred.

The enemy was forced to demolish most of his artillery positions around Shuri, as these guns could not be moved. Such artillery as the enemy tried to move on the roads between Shuri and Yaeju Dake was for the most part destroyed. Artillery, naval gunfire and aviation continued to hammer at the Jap during his withdrawal, greatly reducing his numbers, weapons and supplies.

Pressing closely after the enemy, the Fourth Marines crossed the Asato on 23 May and entered the eastern suburbs of Naha. To cover his withdrawal, the enemy interposed the Sixth Specially Organized Regiment in the ruined city and north of the Kokuba River. This regiment, composed largely of shipping transport personnel and some naval troops, was charged with the mission of detaining the 6thMarDiv while the bulk of the enemy's force moved south from Shuri to the Yaeju Dake Area. The Sixth Specially Organized was decimated during the week that followed when the Fourth Marines, and later the 22d and 29th Marines on a two-regiment front, pushed swiftly through Naha and reached the Kokuba River.

THE Sixth Division maintained contact with the enemy as it pushed southeastward out of the

(*Continued on page* 55)

Street Fighting

In the city as in the jungle the Jap soldier was a specialist in defense. He had to be flushed out and knocked off. Here are lessons learned in the Pacific, as developed from Berlin, Stalingrad and Madrid. ***By Capt M. E. Holt***

We shall fight in the streets.
—Churchill

THE marines are out of the jungles and moving into the cities. Manila gave American troops their first experience in Jap street fighting; then came Naha and Shuri. In all these places the city Jap showed the same stubborn, vicious, fanatical resistance as the jungle Jap. His combat technique was new and different, yet just as specialized.

Marines must now be trained for city combat on principles tested in Europe, first in the bitter street fighting of the civil war in Spain, and then through the countless cities that were battered before V-E Day. Street fighting is violent. It is between individuals and small units in close constant contact; it is with the enemy waiting only 10 or 15 feet away. There is no chance to rest or relax. In rooms, corridors and stairways, the defenders are killed with grenades or with rifles and BARs fired from the hip. Explosives are set off at close quarters to break into buildings and to stun the occupants. Built-up areas are attacked, not bypassed, because they control roads, rail centers, harbors or dominating terrain. Attacking the outskirts of a city is the same as attacking any fortified position. But the marine inside the city, surrounded by buildings, needs special techniques and knowledge.

The principles of street fighting are simple and direct.

Of primary importance is the necessity of developing killing zones—areas covered by fire, which the enemy cannot cross—the old technique of divide and conquer. The enemy is divided by these fires, each subdivision is isolated. It is easier for the marines to neutralize small areas than to attack the whole position at once. As the attack progresses and the Japs are flushed out of buildings, they are eliminated by these fires before they can reach another building and fight again.

IN the attack, the cover and concealment of buildings must be used. Streets must be avoided, because streets offer the only lanes of fire for the defense. Observation is most limited, but this is an advantage for the attacker for it helps him get close to the Jap before the Jap can see him. A building, when possible, should be attacked from the top down; the work should be done with the help of gravity. It is physically easier to work down in a building—and the attacker's grenades cannot fall back on him. A Jap driven upward, and cornered, will fight more stubbornly than one driven to the ground who thinks he can back into another building and fight some more. Once outside, he can easily be mowed down by fire.

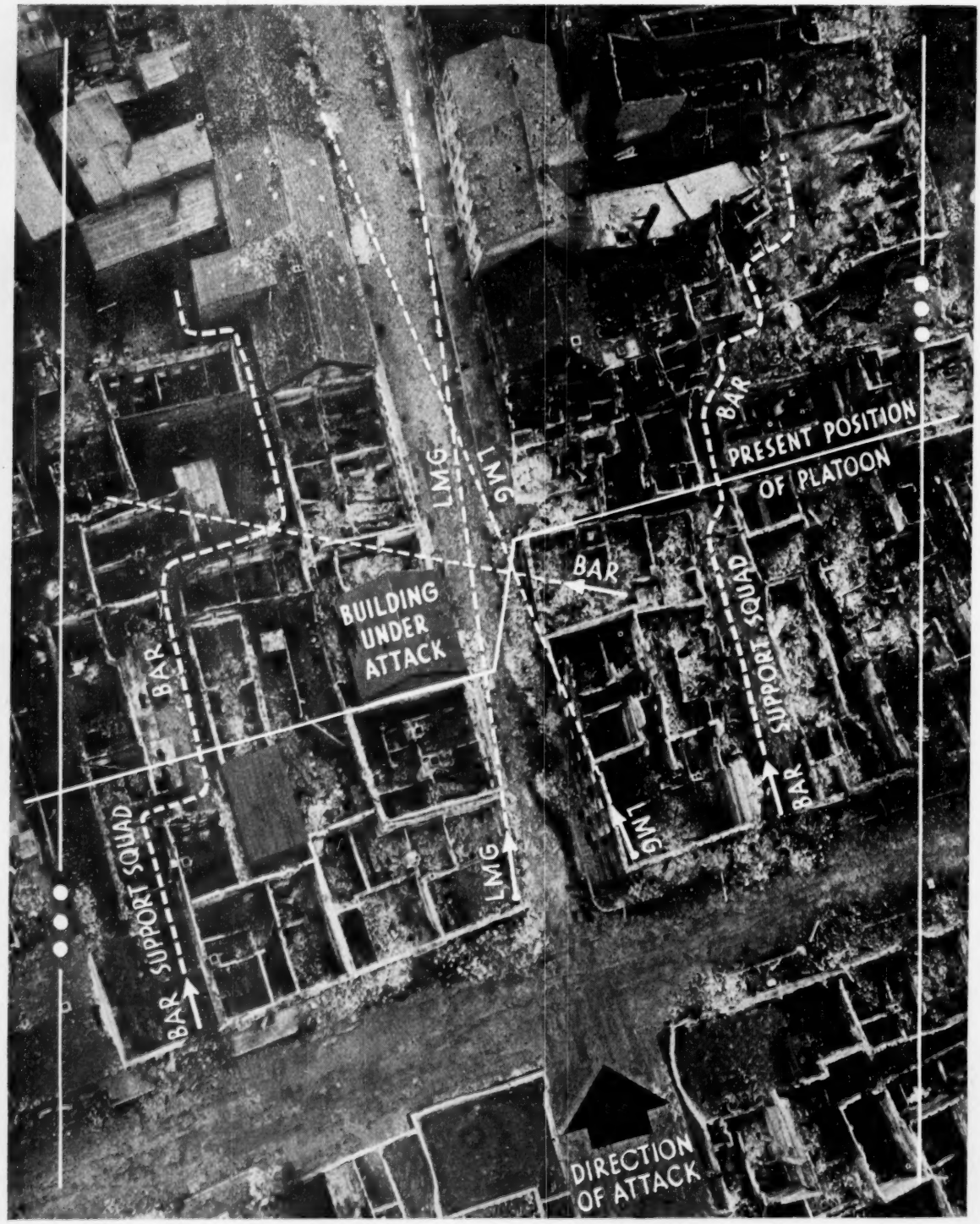
The building attack must be systematic; every building must be checked and searched from the roof to the basement.

Control is almost completely decentralized. The buildings divide attackers into small units, and partitions and floors split these even smaller. This makes it essential that the force be in small self-sufficient units.

Attack orders must give attention to details. Fighting is always close and maneuver space is limited. If all units and all individuals do not know exactly what to do, utter confusion will cause the attack to fail.

The buddy system should be employed, marines paired off and working together covering each other

A phosphorous grenade was used to dislodge a Jap sniper hidden in these ruins.



Before an attack, killing zones must be set up to divide the area into isolated sections. The attached MG section and the support squad's BARs are used for this.

by fire. The difficulties of moving in and out of semi-demolished buildings are thus reduced.

Smoke and covering fire must cover all movements in the open. The use of smoke is governed, of course, by the wind. Smoke should never be used if it will blow back into an attack position.

Use of mechanized equipment is greatly restricted by streets and alleys, which canalize mechanized advance. Rubble, mines, shell holes, and antitank ditches block these avenues.

The use of artillery and aerial support is also restricted, once the attack has moved into the city, because of the proximity of our troops to the enemy. The distances separating friend from foe is normally only five to ten yards.

All support units should be well forward. This helps them carry out their mission, and prevents infiltration around the flanks. Also, the time necessary for reorganization of small units on intermediate objectives is shortened by keeping support units close up. Objectives must be limited and well defined. Control must be rigid to keep all units abreast and flanks tied in. Cover and concealment offered by the buildings make it easy for the defender to strike unexpectedly at the attackers' flanks and rear if they are left exposed.

All buildings that have been cleared of Japs must be marked, usually at the rear of the building and on one of the upper decks. This procedure is necessary so that following troops will not mistake movement in a building for enemy activity.

The Manila battle showed that the Jap uses booby traps extensively in defending cities. But, as a general rule, the Jap will not have live booby traps in a building he occupies. Booby traps must not stop the advance of an attacking force. Even when an area is full of them, the advantage is not entirely with the defender. Supporting fires, both from aviation and artillery, set off some by sympathetic detonation and by physical impact. Demolitions and grenades set off others.

TWO general rules govern operations in booby-trapped areas. First, booby traps that are found should be marked and left for trained engineer personnel to remove.

Secondly, once an opening into a building is known to be clear, this opening should be marked and used exclusively.

The equipment of the marine should be light so he can move in and around buildings with ease and carry lots of ammunition and grenades. Large amounts of both are needed, especially against continuous resistance, where the slightest advance must be preceded by a grenade and covered by a large volume of fire.

Explosives are also used extensively in mouseholing, or forced entry—a common means of getting into a building or moving through walls. Holes may be blown in roofs, partitions or outside walls. This method is advantageous when a good covered approach ends with no normal entrance into a building.

The usual procedure is followed for coordinating an attack. However, prearranged visual signals are used predominantly, because radio or wire and time schedules are uncertain, runners are slow, and movement across streets and open areas is very expensive. The use of voice is limited if not drowned out by battle noises, magnified by the surrounding structures.

An attack must be executed with boldness, great speed and shock effect. Once off balance, the defender should be kept that way.

Tanks attached to a rifle unit for an attack must be given the closest support. They are vulnerable to attack from surrounding buildings. Against continuous resistance from the enemy in almost every building, it is impossible to give adequate protection to tanks if they move with assault echelons of the infantry. In this situation, tanks should be kept behind the assault echelon so that they are surrounded by cleared buildings. If possible, tanks are kept in a covered position, moving forward by bounds behind the assault. When tank targets appear, a runner is sent to point them out to the tank commander. The tank then leaves cover, fires and races back to cover again.

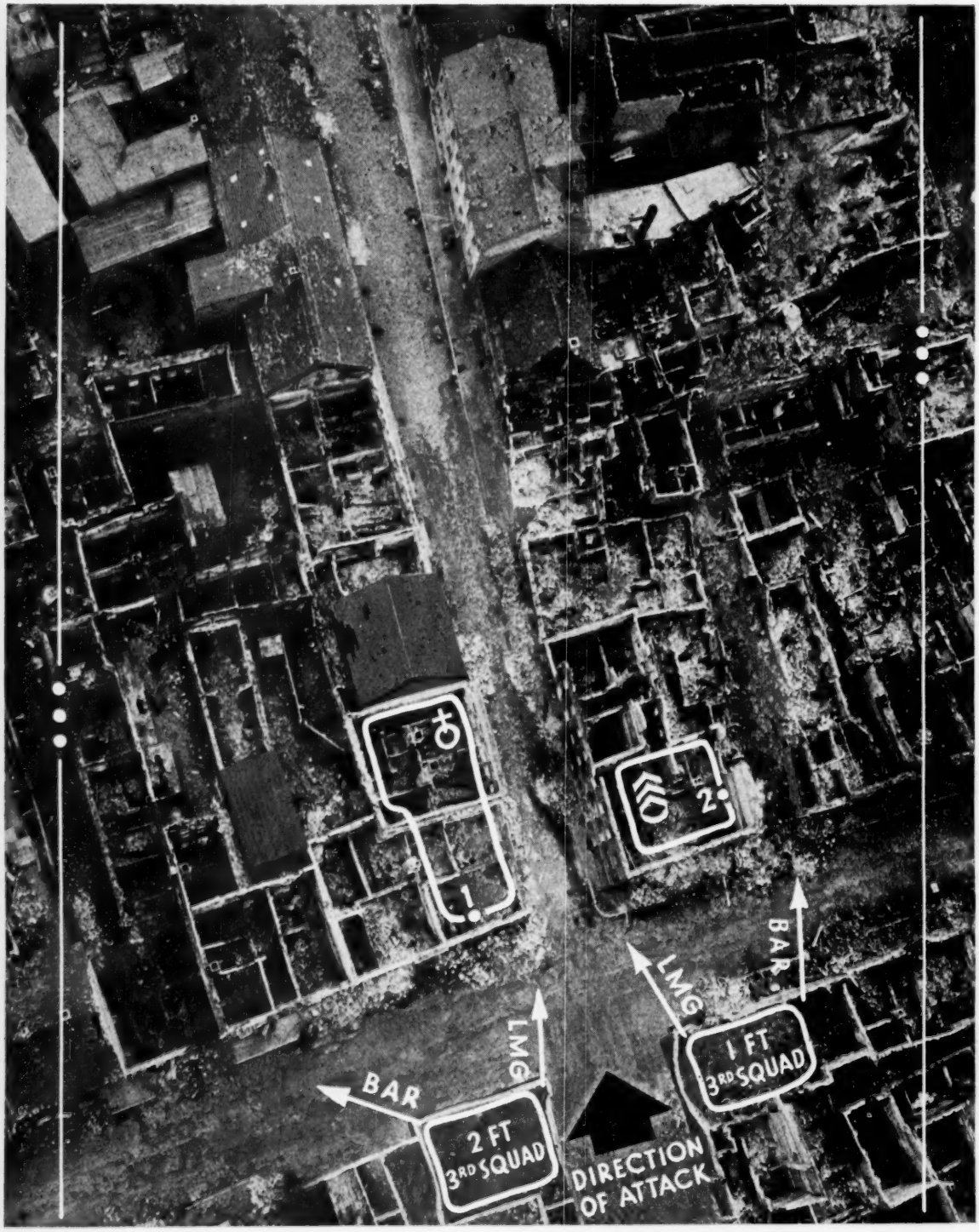
The war in Europe showed that under certain conditions tanks can keep up with the assault echelon. This is practical in mopping up small scattered centers of resistance. Again, however, it is essential that the tank have the closest infantry protection.

Before any built-up area is attacked, complete and accurate information of the area should be obtained. For the small unit commander, a street plan plus several aerial obliques of his zone of action are best. Aerial photos show not only the types of buildings to be encountered, but also their physical condition.

Correct automatic reaction to all situations by the marine will keep down casualties. There is no time to think with the Jap a rifle length away. Jumping into a room or rounding a corridor into the muzzle of an Arisaka allows no time for contemplation. Action is the only solution, and intensive training is necessary to master the correct reactions. Only by constant practice will they become automatic.

The first and most important point to instill in a man's mind is speed in all movements. Movement must always be from one covered position to another. When not moving, the attacker must stay behind cover. It is suicide for him to stop in any open area.

OFTEN it is necessary to scale obstacles or climb to roofs. There are two climbing methods which are easy to teach and which can be mastered by the marine. The first, "Push Up," requires three men. Two face each other, the man to be lifted between them. The two bend over, each putting one hand under one instep and the other on one knee of the man being lifted. The two straighten up, shift the hands from knees to feet, and push up. The first half of the lift is done with the legs. Only the last half is executed with the arms and shoulders. The man being lifted keeps his legs stiff and together. His feet are kept away from the wall so that his weight will be on his hands against the wall. This insures balance. The weapon should



The usual situation calls for the platoon to attack and clear the buildings that face on one street. This calls for the use of two squads forward, one in support.

be in hand at all times. otherwise the marine might become separated from it when climbing during a fast-moving situation. The second method is the "Rifle and Sling Pull-up." Two marines lower their rifles from a roof or top of a wall. The one below grasps the slings and walks up the side of the wall as he is pulled up. In this case, the marine climbing slings his weapon, leaving both hands free.

When firing from the inside of a building, attacks should take positions back away from open-

ings. It is seldom possible to spot rifle fire from the outside if the weapon and muzzle blast are not visible.

To get maximum protection from available cover, it is sometimes best to fire from the left shoulder. This is awkward, but practice makes it as easy as from the right. And it must be remembered, it is better to fire around an object than over it.

Constant observation of enemy-occupied buildings is always necessary. To observe around a corner, it is safer to lie flat on the deck. A standing man looking around a corner is easily spotted and exposes more of his body than one prone. The man who is observing from rooftops must remember to blend with the background, avoiding silhouetting himself.

Often it is necessary to go over backyard fences and roofs, posing an excellent target for any waiting enemy. To make as poor a target as possible, the body should be rolled quickly over the obstacle. Once over, the attacker must take cover immediately.

The bayonet hinders climbing and movement in buildings. The new 10-inch bayonet is easier to handle in buildings than the old type, but it is seldom employed except in large, public places, such as churches and auditoriums, where there is room to use it.

As few as possible should search or clear a building. Too many get in each others' way. With the enemy all about, the tendency is to shoot and ask questions later. If too many are searching, marines will be shooting marines.

A system should be followed in searching and clearing a room where the enemy is known or suspected to be. A buddy team is usually sufficient for one room. Working together, as always, they precede their entrance with a grenade. Movement into the room should follow the explosion closely to take advantage of the concussion and fragmentation effect. The first into the room then moves to the nearest wall, puts his back to it and covers his buddy, who searches the room. Going up or down stairways, the movement should be preceded by a grenade and all movement covered by fire. While one is moving on the stairs, the other covers him.

The squad team must be as highly trained as each individual in it. During training, SOP must be developed for the operation of the squad in combat. The first thing to consider in an SOP is how the squad is organized for attack. The squad should be divided into a *searching party* which enters a building, searches and clears it; and a *covering party*, which, as its title indicates, provides covering fire.

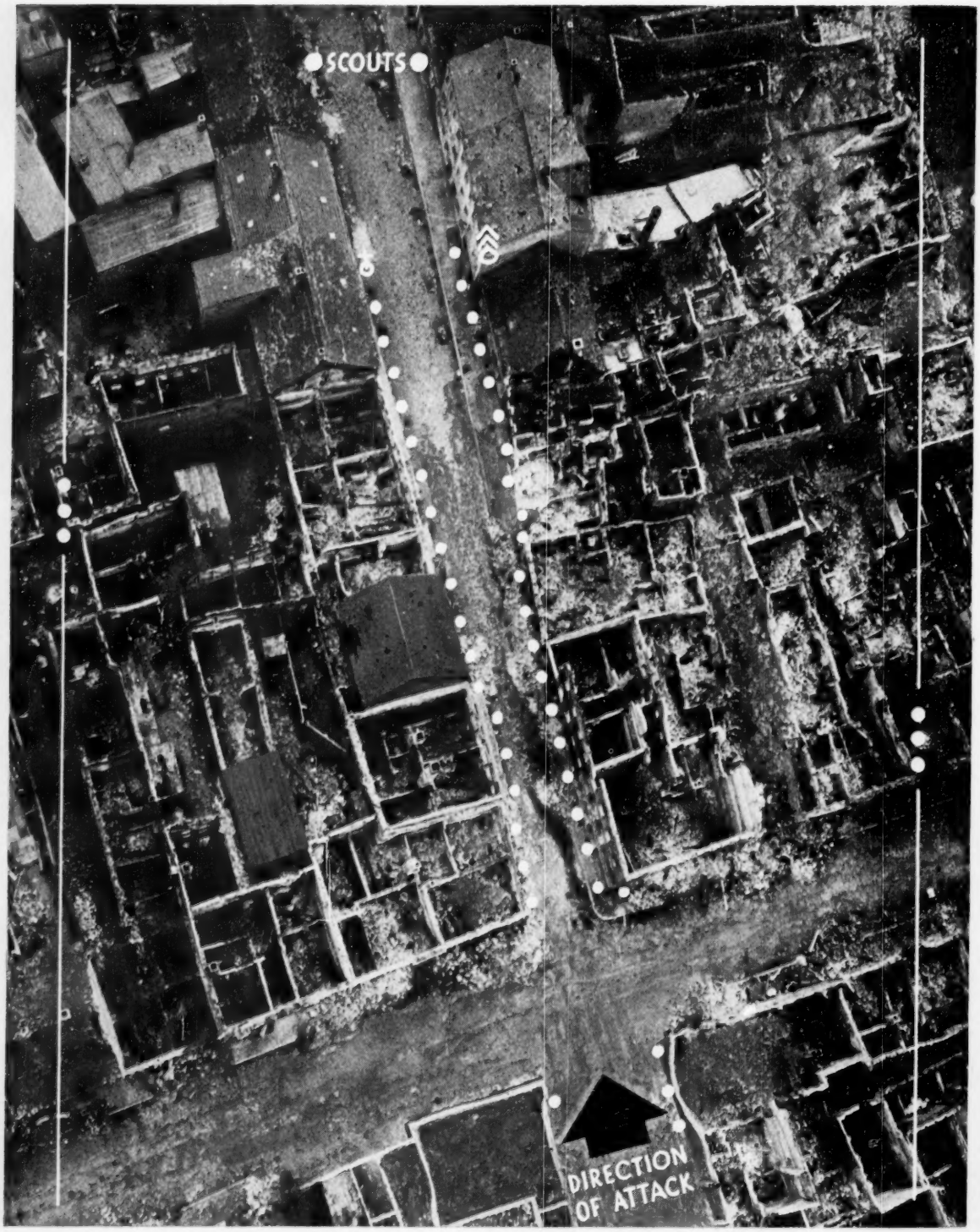
Again it must be stressed that the number of marines searching should be held to a minimum. One fire team is usually sufficient. However, if a building is too large for one fire team to search alone, an additional fire team may be used. When more than one team is searching in a building, there is always danger of conflict between them. To avoid this, each searching fire team must take a definite part of the building and not move out of its assigned section until ordered to do so by the squad leader.

The most important parts of an SOP are the steps necessary for a successful attack. The first is to place the covering party where it can give the most protection to the searching party. Next, the squad leader should try to cut off the building completely with killing zones. This may mean moving a buddy team from the covering party to a position where it will be of no use except to shoot Japs going in or out of the building. To protect the searching party crossing open ground, use smoke if the wind is right. With the building completely cut off by fire, smoke blinding the enemy and covering fire pouring into all spotted and suspected Jap positions, the searching party moves out and secures a foothold. The initial foothold, or the first room taken, is held by the BAR man and the fire team leader of the searching party until the whole building has been cleared. By having this point so held, the squad leader can send reinforcements there without forcing another entrance. And, from this point, the fire team leader keeps visual contact with the squad leader. The remaining buddy team in the searching party immediately works to the top of the building and searches downward. Once the building is clear, the fire team leader immediately posts security. He then signals the squad leader, who moves the rest of the squad into the building. The squad leader's job now is to establish a hasty defense, for counterattack may strike in a matter of seconds due to the propinquity of the enemy. The next step is to mark the building as friendly so it will not be fired on by adjacent units and following troops. Finally come reorganization and continuation of the advance.

A rifle platoon, attacking as an interior unit inside a city, normally has a zone of action two buildings in width, or including all the buildings facing one street. The zone of action becomes narrower as the buildings get larger. The width of the zone of action also varies with the depth of penetration desired and the strength of resistance.

Objectives are always limited; the distance between them is usually not more than one city block. The most common platoon objective is the next cross street to the front. However, it may be the near edge of a park or some large building, such as a railroad station.

Once through the outskirts of a city, a rifle platoon usually acquires a machine-gun section and a 60-mm mortar squad. This is because a company commander cannot effectively support his platoons with the limited observation he has in the zone of action. The machine-guns develop killing zones.



The second method of attack open to a rifle platoon is employed against discontinuous resistance. Movement is initially up the street in two column of files.

The 60-mm mortar is employed against roof tops, the rear of street barricades and the interval between buildings that cannot be reached by small arms fire. Roofs of commanding buildings will invariably harbor enemy observation posts and automatic weapons set up for long-range fire. Street barricades facilitate lateral movement across streets. The 60-mm mortar is the only immediately available weapon the platoon commander has to neutralize these targets.

Before an attack, killing zones must be set up to divide the area into as many isolated sections as possible. The attached machine-gun section and the support squad's BARs are used for this purpose. In an attack down a street, the machine-guns are placed to fire in the street, one gun on each side of the lane. The support squad BARs are positioned to shoot down behind the two rows of buildings under attack. This means splitting the support squad, with a portion of it following each assault squad. The platoon commander in his attack order must arrange signals to lift and bring down these fires, because it may be necessary for friendly troops to use the areas thus covered.

THE technique of moving and controlling a rifle platoon in city attack must be developed into SOP during training. Like calling signals in a football game, the platoon commander calls for a certain play or group action, depending on the combat situation. This SOP is built around two attack plans. What determines which is used is the type of resistance. Against continuous resistance, attack is a slow fight from building to building, and all movement is in or between buildings. No movement is in the street.

The usual situation calls for the platoon to attack and clear buildings facing on one street, with two squads forward, one in support. One assault squad fights down each side of the street, each clearing buildings on its side. The support squad can follow either assault squad or split, with part of the support following each. Splitting the support splits the BARs, which then can develop killing zones down the backs of both rows of buildings.

An attached machine-gun section moves with the support squad. One gun is set up on each side of the street.

The platoon commander places himself on one side, his platoon sergeant on the other. The platoon guide will usually be in the rear, busy with supply and the evacuation of wounded. To maintain the killing zones at all times, even during displacement forward, the platoon sergeant will control the portion of the support squad on his side of the street, while the platoon commander controls the portion on his side, plus the entire machine-gun section. In addition, each has an assault squad under his control.

Movement forward is carried out by only one assault squad at a time. It moves while the other two give covering fire. Before any movement takes place, however, the platoon commander must decide which of the two buildings immediately facing him he wants to attack first. There are two rules to guide him. First, he may attack the closer one; or second, he may attack the one which is the more commanding.

Control depends mainly on prearranged visual signals. But control must be strictly maintained, so a platoon commander should allow no major moves by his squads without his direct order or signal.

On each objective, the platoon commander must order the continuation of the attack. It is usually necessary to have only one NCO cross from the opposite side of the street to hear the order. The NCOs should rotate so that the same man will not take this extra risk continuously. If the situation precludes the street crossing, an order can be written, tied to a brick or grenade and thrown to the opposite side.

It is not the task of an assault platoon to secure the areas it has cleared; this is the responsibility of reserve units. Obviously, a platoon in assault would quickly deplete its strength if forced to drop off marines to hold cleared areas. Security to the rear is maintained by keeping support units very closely behind the assault units, so there will be little if any distance between the two.

The second method of attack open to a rifle platoon commander mopping up is employed against discontinuous resistance. The resistance in such cases is characterized by small, scattered enemy groups left in a city to harass and slow up the attacker.

MOPPING up is much faster than the attack against continuous resistance. Movement is initially in the street in two columns of files, one on each side. Scouts are pushed ahead. Again the platoon commander is on one side, the platoon sergeant on the other, with the platoon guide bringing up the rear. Each marine in the column moves swiftly from one covered position to another. The column on the right observes to the left, and the left column observes to the right. When the platoon is fired upon, all men take cover. The head of each column stands fast, and the rest of the platoon moves up to the building held by the heads of the two columns. The platoon commander picks a point from where he can observe the enemy position, and from this point directs the attack, which moves ahead the same as against continuous resistance. When the center of resistance has been destroyed, the platoon again moves in the street.

Detail searching of bypassed buildings is usually assigned to reserve units, advancing some distance behind.

"We shall fight in the streets," Prime Minister Churchill said. His words were spoken defiantly during Britain's darkest hour, but they proved to be prophetic of Allied offensive battling. Today his words are prophetic of marine action and more and more stress should be given in marine training programs to this phase of warfare, for we shall certainly "fight in the streets"—and against a fanatical enemy! END

Night Attack

The Jap attacked at night because he had to. We did so for other reasons. Night attacks must be planned to the last detail. Surprise is most essential; direction and control are highly important. ***By Col Sam B. Griffith***

BECAUSE the Japanese made many night attacks early in the war, one of the virtues incorrectly attributed to them was an abnormal ability to see at night. We know that a Jap can see no better than we can in daylight, if as well. Consequently there is no reason to believe he can see better at night. The Nips were forced into night attacks by circumstances, just as the Chinese found themselves forced into night attacks against the Japs.

Our superiority in certain techniques and in such weapons as planes, tanks, infantry howitzers and artillery makes daylight attacks too costly for the Jap. At night, neither planes nor tanks can be used in close support, and even the effectiveness of planned artillery fires is reduced. For this reason alone, it is sensible for the Jap to prefer the night attack. In the second place, since going over to the offensive, we have kept the Jap so busy defending himself from dawn to dusk that he has had very little time to attack during daylight.

Then there is the Jap's mistaken belief that he, as an individual soldier, is superior to us in close combat at night. He has a misplaced hope that we will become terrified.

There is no doubt that the Jap will continue his nocturnal attacks, nor is there any doubt that they will cost him dearly.

We, too, have attacked at night in the Pacific, and in Europe, and it is certain that we will continue to do so. Successful night attacks were made by marines on Iwo, and by marines and the army at Okinawa.

WHILE a night attack may be made by a regiment, or possibly even by a division, it is by reason of its complexities generally executed by a smaller unit—an infantry company or battalion. It should be undertaken rarely by any unit larger than a battalion. Accordingly, in this illustrative problem, we use one battalion. A battalion may be ordered to make a night attack for one or more purposes (Para 155b, FM 7-20):

a. To complete or exploit a success.

b. To gain important terrain for future operations.

c. To avoid heavy losses which would be incurred in daylight by an attack over open terrain.

d. To deceive the enemy and cause him to hold forces in position, or to attract his reserves.

Our particular battalion is part of a Corps attacking generally north on the Japanese homeland. The Corps mission is to seize what is left of the city of Saki, a road and railroad center where there are four well-developed airfields. Saki is 20 miles off the map to the north. The Japs are, as usual, contesting every piece of defensible ground, but they have been forced to the north gradually during the last five days. Although we have air superiority, the Japs have put in almost daily small-scale raids against our supply lines. Jap artillery is able to fire from positions north of the Banzai River.

By 1400 today the Eighth Marines, 2dMarDiv, had seized the high ground about 1000 yards south of the Banzai River.

THOSE Japs who were not killed or captured when the hill was seized have withdrawn to the high ground about 600 yards to the north of our positions. This particular piece of enemy-held ground will hereafter be referred to as Hill Able. Two attempts to take it have been repulsed.

There is a group of small buildings on the east end of Hill Able, one easily identifiable as a Shinto shrine. There are several adjacent houses, probably formerly occupied by the priests. On the upper slopes of Hill Able there are numerous rocks and pine trees; the lower slopes are terraced. There is a difference in level of about two feet between each terrace. Rock walls prevent erosion.

The terrain of the hill occupied by the Eighth Marines is similar to that of Hill Able. On the upper slope there are trees and outcroppings of rock that afford some degree of cover and concealment. The lower slopes are terraced.

Along the road, about 400 yards to the front, there are some destroyed homes. The village of Nichi has been practically obliterated. There are snipers skulking in the ruins, but apparently most of the Nips have joined defenders on the high ground to the west.

The Banzai River is about 50 yards wide and from five to six feet deep in the channel. The bridge at Nichi has been destroyed.

Study of aerial photos shows 40 to 50 objects pulled up on the south bank of the Banzai and camouflaged. These are believed to be sampans.

The Corps commander has directed that a crossing of the Banzai be forced as soon as possible after dawn tomorrow, and that a bridgehead be established by the Second Division. He has stated that assault boats, LVTs and bridging equipment will start moving north from the rear after darkness tonight.

The division commander makes the following

plan to carry out the order:

a. To seize Hill Able by a night attack of one battalion, Eighth Marines.

b. To order the Eighth Marines, less one battalion, to seize Hills Baker and Charlie at dawn.

c. To pass the Second Marines through the Sixth in assault, to cross the Banzai as soon as Hills Able-Baker-Charlie are taken. Then, with the Second Marines, to establish a bridgehead to protect bridging operations prior to a resumption of the Corps' attack towards Saki.

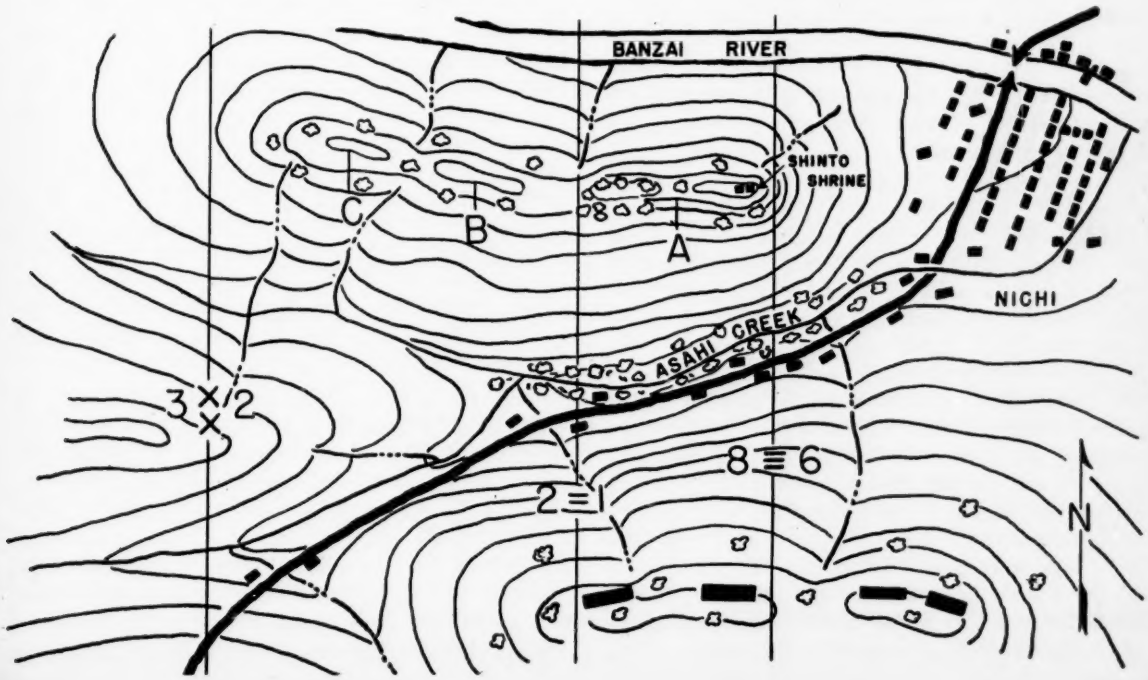
The division commander's orders are received by the regimental commander at 1600. They are to the effect that he will use his freshest battalion to attack, jumping off at 0300. (Para 840 of FM 100-5: "Night attacks are made preferably by fresh troops or by troops in reserve of troops in contact with the enemy.") The division commander has specified that the attack be made during the last hours of darkness. (Para 842 of the same FM: "An attack during the last hours of darkness may be advantageous as a preliminary operation to a general attack at daybreak.")

Now for an examination of the objective. Hill Able extends approximately 400 yards from east to west. The enemy positions are about 600 yards from our own. One battalion has been assigned the mission of taking the hill. (Para 840, FM 100-5: "The difficulties of the night attack increase with the size of the command. They therefore are undertaken on a limited scale and with limited objectives.")

Darkness falls at about 1900, leaving three hours more of daylight—not too much time, as will be seen. (In FM 100-5: "The decision to attack should be made while there is still sufficient daylight to make all preliminary reconnaissance and preparations. Reconnaissance should include observation of the terrain at dusk so that both the day and night aspects may be studied." FM 7-20, Infantry Battalion, states in this connection: "A battalion should have a minimum of three hours for daylight preparation. Night attacks are seldom justified without ample time for daylight preparation.") In this particular instance the battalion commander has almost three hours for daylight preparation.

IT is a cardinal point of night attack doctrine that the objective be a specific area or terrain feature close to the hostile front, and of such width and depth that it can be captured in a single assault by the force detailed to make the attack. (FM 7-20 amplifies this: "It [the objective] should be well defined and easily recognizable at night.") Hill Able seems to qualify as a legitimate night attack objective. (The manual continues: "The approaches to it should permit silent movement.") The movement here will possibly not be as silent as we would like because of the terrace walls. However, as Corps Artillery will be firing intermittent long-range harrassing fires north of the Banzai during the night, there is a good chance that the movement, if stealthily executed and coordinated with these fires, will be undetected. (Para 839 of "Operations" states: "*Surprise* is the most essential feature of a night attack.")

The problem for this battalion would be simpler if there were some handy directional aids on the axis of attack. (FM 7-20: "The attack is facilitated if roads, fences, hedges, pole lines, engineer tape or other directional aids are used.") While we do not have any convenient directional aids, we find



on examination of the terrain, that there are certain natural and man-made features that will be of considerable assistance. First we have the Shinto shrine with its torii and the surrounding buildings, which, although badly damaged, will be silhouetted against the sky. The clumps of pine trees on the knoll at the west end of Hill Able will be valuable as well.

There are numerous transverse features that can serve as phase lines to control the advance. Before the troops reach the highway, for instance, they will cross two terrace retaining walls. Then they cross some low ground, and finally the highway. About 100 yards beyond the highway they must ford Asahi Creek. On the south slopes of Hill Able there are two terraces and two retaining walls. (FM 7-20: "Ordinarily . . . the advance is by bounds with periodic halts for the purpose of checking on contact and on direction. The battalion commander may prescribe that such halts be made on arrival at designated well-defined terrain features at prescribed time intervals, or after advancing a prescribed number of paces.")

WE have covered most of the general considerations affecting the planning. Now, we will put ourselves on our stomachs behind some large boulders at the regimental OP on the hill, and listen to the conversation that goes on between Col Ironpants, the regimental commander, LtCol Wolf, the battalion commander, and their respective artillery liaison officers and S-3s. LtCol Wolf's S-3 lost all his money in the first three poker games of the long trip to Japan and, consequently, had time to read FM 7-20. Fortunately, he is familiar with Sect 8 of that volume.

Col Ironpants speaks: "Wolf, your battalion has been in reserve almost 48 hours. Your men are fresh. They are now in the ravine to the south in assembly areas."

LtCol Wolf: "Yes sir, the men are in fine shape."

Col Ironpants: "Those three hills are designated from east to west as Able, Baker and Charlie. They are occupied by about two reinforced companies of Japs.

"That creek to the front, marked by the fairly heavy undergrowth, is Asahi Creek. We questioned three native residents of Nichi. They agreed that, west of the blown out bridge, the Asahi is at no place more than 12 feet wide and four deep.

"The division continues the attack to the north tomorrow. This regiment seizes Hills Able, Baker and Charlie by a night attack at 0300 and a dawn attack at 0628. From these hills, this regiment supports the Second Marines, which will force a crossing of the Banzai. Third Battalion will make a predawn attack at 0300 tomorrow and will seize Hill Able and reorganize rapidly. At dawn, mop up the position and support the attack of the 2d Battalion on Hills Baker-Charlie with fire of all available weapons.

"When you have secured the objective, announce the fact over voice radio and telephone circuits. Fire two amber star parachutes to indicate objective seized. Fire two green star parachutes to request objective be boxed in by artillery.

"Should a withdrawal become necessary, you will withdraw in the zone in which you advanced. Artillery will fire protective barrages on Hill Able and on your west flank to cover a withdrawal. Your signal to call down these concentrations will be three red star parachutes fired in rapid succession.

"Do you have a clear picture of the general situation and of your mission?"

(FM 7-20 states in Para 155f: "The regimental commander, in ordering a night attack be made, prescribes the objective, the support available from other units outside the battalion, and the mission to be accomplished after capture of the objective.")

LtCol Wolf: "Yes sir, I have a clear picture. What do you think about artillery preparation here?"

Col Ironpants: "In order to achieve surprise, I think it advisable to do without artillery."

(Para 839 of FM 100-8: "The attack itself may be made by stealth or by full use of all available fire power.")

Maj Slick, regimental S-3, speaks: "The first battalion used artillery about six weeks ago in a night attack shortly after we landed. That attack was not too successful. Now, the Nip has pulled back from this hill to his present position. He has not had time to organize and get that hill full of as many caves as he dug into this one. I think under the circumstances that prevail here we have an excellent chance for surprise."

(FM 7-20: "A night attack requires special measures to secure surprise. Since secrecy is indispensable to the success of a night attack, an artillery preparation is undesirable. However, for an attack against a strong position the battalion commander may arrange for a short, violent artillery preparation to be placed on the objective immediately preceding the assault, and to be lifted on a time schedule, or on a prearranged signal.") The battalion that made the successful night attack on Okinawa on 17 May did not use artillery. Several reports from Europe indicate that most commanders there felt that they had a better chance of success if they went in without artillery preparation.

Col Ironpants: "Now, Wolf, is there anything else? You have about two hours of daylight—a little more perhaps. Not too much by any means, but enough. When you have drawn up your plan, let me see it before you issue the order. Check time—I have 1651."

(FM 7-20: "Usually the instructions of the regimental commander include a directive that the plan of attack be submitted for his approval.")

LtCol Wolf: "Aye, aye, sir. I will bring my plan

to your CP in half an hour." (Exit Col Ironpants, Maj Slick, their runners, radiomen, etc.)

LtCol Wolf speaks to his S-3, Capt Blow: "Blow, break out your glasses and air photos and let's take a good look at this setup." (Both study the ground intently and make marks on an air photo.)

LtCol Wolf: "Well, this could be worse. I figure that hill to be about 400 yards from east to west. What do you make it?"

Capt Blow: "Yes, sir, that's about it. I think we must use two companies here, the right company to take that Shinto shrine and those shacks around it, a zone of action of 200 yards; the left company to seize that knoll on the west end of the ridge where the pine trees are, a zone of action of approximately 200 yards."

LtCol Wolf: "That's exactly what I was thinking."

(FM 7-20 states that the preparations to be made by a battalion commander include: "Prompt determination of the rifle strength to be employed in the attacking echelon" and "the determination by reconnaissance of the limits of the objective." Here the rifle strength has been promptly determined, and the lateral limits of the objective assigned have been precisely defined.)

LtCol Wolf: "Blow, take some notes. We will use King and Love companies in assault, Love on the right. We will order each company to send out one patrol in its zone of action. The limit of patrolling is the near edge of the lowest terrace on Hill Able. Patrols will clear front lines right after dark. I want them to find at least two good fording places to cross the Asahi in each zone, and establish the positions of Jap outguards and listening posts. I think the Jap civilians are giving the straight dope, but it must be checked." (Para 156c of FM 7-20: "Frequently the only means of securing detailed information of the terrain in the Z of A as well as the location and strength of hostile outguards and listening posts is by night patrolling.")

Lt Col Wolf: "Patrols will be ordered by the 2d Battalion and by the Sixth Marines to operate in zones adjacent to our own so that our intentions will not be revealed."

(FM 100-5 in Para 839: "Preparations for night attacks, whether made during daylight or darkness, must avoid betraying the locations or intentions of the troops.")

ABOUT 25 minutes elapse, during which time LtCol Wolf is at regimental CP discussing his plan with Col Ironpants. Upon his return, he finds the company commanders, who had been sent for. LtCol Wolf orients them and then issues the following order, based on his conversation with Col Ironpants and Maj Slick, and on the notes he and his S-3 had taken. In this order, LtCol Wolf has tried to take care of every contingency. Still, no matter how complete the order for a night attack may be, it is almost certain that something unforeseen will arise. The night attack order should take care of all predictable contingencies. (Para 158, FM 7-20: "The order for a night attack goes into much greater detail than a similar order for an attack by day. Provision is made for every eventuality that can reasonably be foreseen.")

LtCol Wolf speaks: "The Japs hold the hill line Able-Baker-Charlie. There is about a company of Japs on Hill Able. Fire from about six LMGs and several heavies has been received from the area of the Shinto shrine. We have not been able to locate any probable Jap positions below the second terrace. The number of Nips and their armament on the west knoll of Hill Able is undetermined. Remember that they are able to shift automatic weapons rapidly from east to west at will by using reverse slope routes.

"The division continues the attack to the north at dawn. At 0628, the 2d Battalion attacks to seize Hills Baker-Charlie. After seizure of this high ground to the front, the Second Marines pass through the Sixth and will force a crossing of the Banzai, using LVTs and assault boats. They will establish a bridgehead to protect heavy bridging operations by the engineers. This regiment, from Able-Baker-Charlie line and from its present positions on this line, and the Sixth Marines from their present position, will assist crossing by fire of all available weapons.

"This battalion passes through 1st Battalion positions and makes a night attack tomorrow (Wednesday) and seizes Hill Able.

"Formation: King and Love abreast, Love on the right.

"Line of departure: crest of this hill we are on.

"Direction of attack: 000° Mag.

"Right of battalion zone: the Shinto shrine; left of battalion zone, knoll with pine trees 400 yards west of Shinto shrine.

"Time of attack: 0300, tomorrow (Wednesday).

"LOVE—a. Your objective is knoll on east end of the hill, the Shinto shrine and the buildings adjacent thereto.

b. Formation—line of platoon columns.

c. Forward assembly area—about 300 yards to the rear, on reverse slope of this hill.

d. Rate of advance—100 yards in eight minutes.

e. Limit of advance—100 yards beyond crest of Hill Able.

f. Reorganize rapidly on objective.

g. On capture of your objective be immediately prepared to assist King on the left as King is most likely counterattack target.

h. Mission at daylight—mop up. Attach all available MGs to King at dawn to assist the attack of the 2d Battalion on Hills Baker-Charlie. Your 60-mm mortars will be prepared to fire to assist the advance of the 2d Battalion.

i. When move from assembly area commences,

(*Continued on page* 57)

Close Air Support on Luzon

You can lead a plane to a strike with anything from a radio jeep to a mirror, but MAG 24 found that closer air and ground liaison meant better hunting.

By LtCol Keith B. McCutcheon

MARINE dive bombers of MAG 24 began their first close air support missions on Luzon seven days after the first squadron came ashore—and wrote military history in doing it. Their assignment was to provide a cover of nine SBDs continuously from dawn to dusk for the First Cavalry Division in its historic sweep toward Manila. This cover lasted almost a month.

Previous to this, the SBDs had received other calls, but the only resemblance to close support was that the strike cleared through an SAP—without regard to the proximity of friendly troops to the target.

Providing cover for the 1stCavDiv, however, made up for the early lack of close mission requests. After four days of patrolling—during which the planes were the 1stCavDiv's sole flank guards (a brand new use for planes) — resistance to the ground forces stiffened. The planes were called upon for a real example of close support bombing. They gave it. More than once, they acted as spotters. After expending their bombs, they remained on station and directed artillery on targets that they had spotted during their flight. While serving as the flank protection, the pilots flew observation and recon missions, providing information on the status of roads and bridges. They covered well to the east for signs of Jap activity out of range of ground observation. Prior to take-off, a thorough briefing gave the planes secondary targets so that all bombs reached the consumer—the Jap.

As the campaign progressed and as the troops gained confidence in the marine pilots, missions were called closer and closer to friendly troops. Most of the strikes were set up the night before and, in this respect, lacked one characteristic of close air support—swift delivery after the request has been made. Because requests were slow in reaching the air operations even with the overnight interval, it was usually early morning before final arrangements had been agreed upon. Otherwise, all elements of a close strike came into play: use of panels, artillery smoke, white phosphorus markers, dummy runs and the employment of an air coordinator.

THE machinery available for target location and designation left something to be desired. In general, maps were unsuitable. The scale was bad, and the number and size that the pilot had to handle made their use cumbersome. He resorted to them only for navigation and general orientation. Photos were, on the average, good, but were infrequently available. Guerrilla sketches were excellent and reliable and, when combined with photos, proved highly satisfactory.

However, these aids were employed only as a last resort. If the ALP could get into a position to observe the target, he talked the pilot in, correcting dummy runs. If smoke was being used, he adjusted the planes on the correct marker.

When it was possible to bring the air coordinator and the intelligence officer to the Division CP to see precisely what the situation was and to examine the terrain from the ground, better strikes resulted. The intelligence officer and the air coordinator were then able to brief the pilots on the basis of their reconnaissance. With this background, when the planes were over the target, the regular procedure was particularly effective.

Experiments were made in using army fighters to strafe ahead of the SBDs and thus spot the target. While strafing was an effective attack weapon, it didn't work too well as a target marker, mainly because the fighter and dive bomber pilots could not be briefed together due to the location of their targets.

THE size of the strikes varied from nine to 18 aircraft. Flights of more than 18 planes proved to be unwieldy, and the practice was to dispatch elements to the target area in column and permit the ALP to run the elements as though they were individual missions. This saved time in rendezvousing the flight and eliminated milling around in the target area.

Before the campaign ended, there were seven radio jeeps in service with army divisions and guerrilla forces. Their experiences would fill several good books. Once, a radio failed and the operator flashed the planes with a mirror. The pilot leading the strike sensed something wrong, so he informed the ALP to flash once for "yes" and twice for "no." He then asked questions about the target location and the conduct of the strike. The results were as satisfactory as radio. In another instance, a jeep turned fighter-director and vectored an army fighter to a lone Jap plane that had unaccountably wandered over the target area. The army plane made the kill.

Main difficulties with close support on Luzon centered around communications. So many planes crowded one frequency and sometimes made it impossible to direct a strike. This was partially overcome by setting the marine planes up on medi-

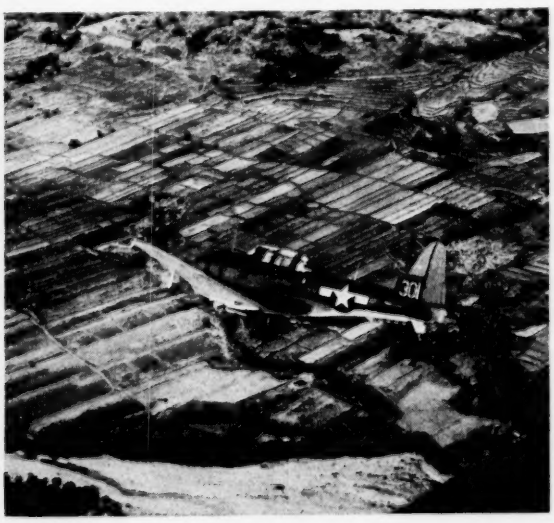
um frequencies, thus separating their channels from the army's.

The SBDs were magnificent. Their radios allowed them four VHF channels and two high or medium channels. They would monitor either their high or medium channel and one VHF channel and operate on the less crowded of the several frequencies at their disposal. Some of the terrain masked VHF transmissions—a difficulty which the SBDs got around through their ability to work on medium frequencies.

This dive bomber also demonstrated some close support limitations. Its two guns do not make for effective strafing. Its low speed makes fighter cover necessary in contested air.

The Zamboanga operation, in which MAGs 12 and 32 participated, revealed a likely replacement, the F4U-1D, as a fighter bomber. Six forward firing guns, rocket racks and three bomb racks suited for a variety of bombs or incendiaries, its speed to take it in and out of a hot target and its ability to care for itself in a melee are valuable. Both VHF and HF/MF radio give it the capacity to work well with ground units.

On Zamboanga, ground echelons went ashore on D-day with the Army—probably the first time marine aviation has made an assault landing. The Corsairs arrived five days later and, until the SBDs came in on D+12, handled all the close support in addition to their usual convoy cover, combat air patrol, scramble alert* and fighter sweeps. The Corsairs were excellent. The tactics were similar to those used on Luzon—with variations in detail. The proximity of the strip to the front lines enabled flight leaders, intelligence officers and air liaison party personnel to tee up the strike in conjunction with the ground force commander and the artillery forward observer from forward positions.



A Douglas SBD of the First Marine Air Wing pinpoints a Central Luzon target.

Cooperation and coordination paid big dividends. The 41st Division permitted its regiments to request air support direct from air operations, a practice which reduced the time between origination of the strike and its delivery.

FOUR squadrons were available to deliver close support to two assault regiments. A good job of bombing on the first mission set the scene and mission requests flowed in. Targets that could have been hit with artillery were attacked from the air. In some cases, the fighters dropped incendiaries short of the target to burn off masking vegetation. The planes were also called upon to hit reverse slope positions. In order to allow the ALP to direct the strike he was airborne in an artillery spotting plane, and relayed directions via artillery and air nets. The necessity for this was later eliminated by mounting L-5 plane radios in marine planes so instructions could be given directly.

A device which the SBDs had used with great effect in supporting the guerrillas on Luzon was even more successful with the Corsairs. Their greater strafing power before and after bombing runs with firing runs in front of advancing ground troops kept the Japs down, and confused their defense. The groups used their own ALPs to a great extent in Zamboanga. The knowledge brought to their duties by the air people insured the planes being kept on the right targets and clear of our own troops. What the pilots learned doing ALP work was reflected later in their own air discipline and close support work. Having been chased to cover by hostile machine-gun fire while trying to direct planes impressed on them the problems encountered on the ground. Their association with ground communications gave them an understanding of difficulties when air-ground contact was impaired or delayed.

To make the turnabout complete, ground personnel went on SBD dive-bombing missions, getting first-hand the flight leader's point of view.

The presence of a Marine Air Warning Squadron in the air task group resulted in a new departure for close support. Air ground radio circuits were added to the regular AN/TTQ equipment of the Fighter Director and a joint Support Air Party-Fighter Director set-up established. This combination scored some successes with night support missions. P-61 night fighters were vectored to ground targets and in two instances quieted Jap artillery.

It is apparent from the Philippines experience that close air support has not been used to its utmost. It was also demonstrated that an air unit, with a little training, can deliver close, accurate attacks. The cardinal principle to bear in mind continually is that close coordination and thorough cooperation on the part of all concerned are vital to success. The more you know about the other fellow's problems the better you can work with him. END

Naval Gunfire Support in Landings

Our present use of ships' fire reverses a centuries-old precedent. Marine and naval experts pioneered in developing the new doctrine five years ago. ***By Maj R. D. Heinl, Jr.***

CONSIDERING the amazing success and precision with which it has been employed, and the enormous tonnage of fire which it has delivered against enemy land targets, there are few weapons in our amphibious armory about which so little is generally known by the layman (and that little subject to innumerable misconceptions) as naval gunfire support in landing operations.

Few marines realize that gunfire support doctrines as we apply them every day overwhelmingly reverse a precedent centuries old—that ships' batteries could neither engage safely, nor expect to destroy land targets. And not one officer in 10 knows that this about-face, whereby warships engage and destroy enemy batteries, deliver indirect fire by map-data upon unseen targets, and render artillery-like close support to ground troops, is largely the result of the imagination and gunnery know-how of a small group of marine artillerists and navy officers who in 1940 examined past failures and present gunnery capabilities with a view to harnessing the immense support-potential of warships.

The fruits of this pioneering have been literally worldwide—world-shaking, as well—for wherever men-of-war of the United Nations have prepared a landing by preliminary bombardment, and wherever a crouching shore fire-control party on the beach has brought down salvoes from offshore, the doctrines of the Fleet Marine Force and naval amphibious forces have been reaffirmed.

Ships' gunfire can hit hard both in muzzle velocity and great weight of projectile; it can be delivered with great rapidity; and, subject to terrain which may shelter targets from its relatively flat trajectories, it makes available without delay the enormous firepower particularly necessary in overcoming the initial handicaps of amphibious assault.

On the other hand, effectiveness is limited to the maximum range inland of ships' batteries; steep terrain may mask gun from target; radio communications may fail where wire would hold up; and fire from an unstable, moving gun-platform may produce large deviations at long ranges, despite the accuracy of modern fire-control.

By inspection, therefore, we may see the important comparative differences between naval gunfire and artillery, a distinction which it is especially important that troop-commanders be able to draw, since the superficial similarities of the two arms may in some instances cause confusion, while in other cases apparent fundamental differences will hide fields of interchangeability. In summary, it may be said that naval gunfire has greater power but somewhat less precision; that although its flat trajectory cannot always reach behind masks, its flexibility in choice of position largely compensates; finally, that while artillery is essentially a matter of human, manual endeavor, naval gunfire is almost entirely mechanical.

Above all, however, naval gunfire is there when it is most needed.

Ships' fires help clear the beaches so that assault waves can land (it was no accident that, even on Iwo Jima, initial resistance to the landing was officially characterized as "light"). After troops are ashore, but before artillery can come in, naval gunfire is the only means available for delivery of continuous close support, if we exclude the powerful but necessarily discontinuous assistance of airstrikes. From all this, then, we can arrive at a threefold mission of naval gunfire support in a landing: (1) to prepare an objective for assault and to cover the initial landing; (2) to bridge the gap between initial lodgment of troops and the landing of their artillery base of fire; (3) thereafter, to reinforce and thicken other supporting fires.

In order to accomplish this threefold mission, the Marine Corps and Navy have developed through many trials (and often by error) an organization and a set of doctrines which at last have become fairly well stabilized. Trained staff officers who have "grown up" in the work are in key positions, and a considerable body of veteran junior officers, both navy and marines, now execute and control fires in each operation.

Hard-hitting naval guns blasted the Jap out of the caves honeycombing Iwo Jima.

The basis of the whole technique is the shore fire-control party, the truly amphibious combination of marine and navy officers and men who conduct warships' fires from the shore.

As an idea, the shore fire-control party antedates the present war, having been used at Gallipoli. American gunnery methods, determination to succeed, painstaking training, and really effective communication equipment and techniques blessed our efforts with success. Basically, the modern shore fire control party, or SFCP as it is usually termed, is nothing but a forward observer team and a battalion naval gunfire liaison officer's team, both equipped to communicate with supporting ships offshore and trained to obtain, adjust and control naval fires. The forward observer, or spotter, as he is designated in naval gunfire, is a marine artillery lieutenant, while the naval gunfire liaison officer, who remains with and advises the supported battalion commander, is an ensign or lieutenant (jg). Each officer has a communication team composed of two radiomen, two wiremen, and a vehicle-driver (in addition, the spotter has a standby assistant, the enlisted scout-sergeant). Under present T/O the whole party consists of the two officers plus 11 marines. Radio communication is maintained between ship and shore by SCR-284 or TBX-8 radios, while intra-party and inter-unit radio communications are provided by telephone and the familiar walky-talky SCR-300 sets. All personnel and equipment of shore fire-control parties—of which there are nine to a marine division (or one per rifle battalion)—come from the divisional assault signal company.

IN THE next higher echelon, there is one naval gunfire liaison team attached to each regimental headquarters. Unlike the SFCP, this team does not actually control fires. Headed by a navy lieutenant or lieutenant (jg), its job is to provide effective liaison, control, and communication with the three subordinate shore fire-control parties attached to the rifle battalions, as well as with higher echelons. The regimental naval liaison officer advises the commander on correct employment of gunfire; receives, passes on and coordinates requests from lower echelons for reinforcing or special fires; and acts as necessary to keep SFCP personnel and materiel functioning effectively at strength. The regimental team, which contains five enlisted radiomen, is likewise equipped with TBX and SCR-300 radios.

Coordinating the overall employment of naval gunfire in the division is the naval gunfire officer,* a marine field officer assisted by a navy lieutenant or lieutenant-commander and another communication team. The division gunfire officer—who is also an Assistant G-3—supervises all naval gunfire training and indoctrination, prepares the naval gunfire support plan (usually Annex Charley of the conventional operation order), and in combat exercises a control over the use of his arm which is generally comparable to that of the artillery officer, with whom and with the air officer he carefully coordinates fires by close personal liaison and by an intimate knowledge of the problems, capabilities, limitations and characteristics of the respective supporting arms. The divisional naval gunfire team is equipped with one jeep-mounted TCS radio, a standby TBX for use during displacement or early in the landing, and SCR-300 sets for the intra-division naval gunfire net. Four radiomen and a driver comprise the team, which, with the regimental teams, is likewise furnished by the assault signal company.

Land-emplaced naval guns such as this on Iwo were no match for our ships' weapons.

Atop all—unless the operation is of field army size—is the corps naval gunfire officer. His principal mission during operations is to consolidate and coordinate all requests for assignment of ships to support the subordinate divisions, and to recommend deep or general support missions for vessels not required in direct support. After having insured that correct and efficient use is made of naval gunfire by his consolidated plan, and that it ties in closely with the artillery and air plans, the corps gunfire officer passes it to the Naval Attack Force Gunnery Officer, who assigns ships to meet the requirements outlined. To conduct operations, the corps team requires at least nine radiomen, additional drivers and administrative personnel, and three navy officer assistants, who function as communication watch officers and assist in planning. Radio equipment varies somewhat, but always includes one or two TCS sets, a longer-range installation such as the SCR-193, and facilities for monitoring. It is the responsibility of corps signal battalions to provide and maintain these teams.

As may be readily realized, the importance of communications is paramount, although their successful achievement is not, as in ordinary signal matters, the ultimate end in itself. Rather, as in artillery, where communications are likewise crucial,

*This officer still appears in Marine Corps TO as "Naval Gunfire and Artillery Coordinator," a term long obsolete in the field, where his accepted title is "Naval Gunfire Officer."

the true objective of securing and maintaining effective communication is, as the Third Marine Division's naval gunfire SOP puts it, ". . . positive control and rapid delivery of fires as requested."

The communications employed in naval gunfire support, while primarily by radio, also make considerable use of wire. Radio nets are of two fundamental types, those used for spotting and fire control, and those set aside for command and administrative purposes. On spotting-frequencies, a single shore fire control party, a fire-support ship, and any spotting aircraft attached, are the component stations of the net, with both liaison officer and spotter maintaining their own sets in operation. On the command and administrative net, all echelons from regiments to corps are represented, together with all fire-support ships, and the Naval Attack Force Gunnery Officer. In addition, various types of very light portable radios, such as the SCR-300 or, subject to some limitations, the SCR-536, find special uses for intra-unit communication and as alternate channels.

Considered both in tactical relationship and in chronological sequence, the planning and execution of naval gunfire support falls into three phases during an amphibious operation. The first is that of preliminary bombardment, the process of preparing or softening an objective prior to the landing of troops. Methodical destruction of all targets capable of directly opposing the landing or of attacking our own ships and aircraft is the mission of this phase, duration of which will vary from operation to operation. Although, in the literal meaning of the term, "preliminary bombardment" would apply to the fires delivered immediately before the time of landing, it is not so employed, and these fires are classed in the second phase of gunfire support, namely, the D-day fires. These in turn are subdivided as being pre-H-hour or post-H-hour scheduled fires. The former are delivered with the mission of effecting such final destruction as may be wrought and to force enemy defenders to abandon beach-defenses. Post-H-hour scheduled fires serve to bridge the interval between landing of the first assault waves and the time required by shore fire control parties to land, set up and begin calling for fires on targets of opportunity. Post-H-hour fires also isolate the immediate beachhead, preventing enemy counterattack or reorganization while our own forces organize to continue the attack. The third phase of gunfire support is that in which fires are delivered in support of the balance of the operation. Sometimes referred to as the call-fire phase, this is the period in which fires are requested by shore fire control parties of assault units as the changing situation dictates.

Throughout all three phases, naval gunfire is employed wherever possible against located, heavily-constructed materiel targets, despite the common fallacy to the effect that naval bombardment is largely a matter of so-called "area shooting."* Nothing could be less true, and any officer who has seen the methodical pinpointing of targets, the complex bookkeeping, the careful weighing of priorities, and the painstaking damage-assessment which are part of modern preliminary bombardment will realize that the "area-shooting" theory is absolutely wrong. Even during the final, call-fire phase, the tendency to expend quantities of naval fire in order to neutralize suspected or ill-defined targets or to "cover" suspicious areas must be carefully avoided.

A MORE or less standard organization of fire-support ships for combat, to borrow an artillery term, employs one destroyer in direct support of each assault battalion, performing with its 5-inch battery missions generally analagous to those demanded of a 105-mm battalion; a cruiser, or sometimes a battleship, under direct control of the division naval gunfire officer, in general support of the division; and a group of general-support ships, virtually all cruisers and battleships, executing deep-support and counterbattery missions as scheduled on the corps level. In general, destroyers are used for close-supporting missions against light targets, whereas larger ships engage the more solidly constructed heavy materiel-targets well ahead of the assault echelons. For special missions such as inshore protection of coastal flanks, sealing up of caves, and very deep area-neutralizations, a pool of minor support-craft, mainly LCI and LSM modifications, can deliver 40-mm, rocket, 4.2-inch mortar, and direct fires from 5-inch and 3-inch guns. These craft are assigned for special missions upon request of the lower echelon concerned.

Procurement and training of Fleet Marine Force naval gunfire personnel, both marine and navy, presents many problems. Although training commences at the Amphibious Training Command, Pacific Fleet, at Coronado, California, it has nevertheless been found necessary to conduct advanced training of all officers and enlisted personnel under supervision of the Naval Gunfire Section of the Fleet Marine Force. Here, prior to their assignment to the respective assault signal companies, all hands conduct joint firing exercises on the Navy's shore-bombardment range, where every fire-support ship must complete a rigorous qualification course. New officers and men receive "experience-lectures" from seasoned personnel, and, between every operation, the naval gunfire elements of each assault signal company return for refresher training and regrouping.

In addition to meeting the naval gunfire training requirements of the Fleet Marine Force, the Naval Gunfire Section also renders maximum practicable assistance to now-increasing Army naval gunfire ele-

*Even so formidable a writer as Hanson Baldwin recently reported that preliminary bombardment on Iwo Jima, prior to landing of shore fire-control parties, was limited to blanket coverage of areas, a concept which antedates Tarawa.

Shells from ships' guns ripped the airfield at Iwo and reduced planes to wreckage.

ments, which, from time to time, turn to the FMF for advice or facilities. At the same time, very close liaison is maintained with Fleet echelons concerned with amphibious gunnery matters. Thus, in the field of naval gunfire support, the Fleet Marine Force, which originally pioneered modern development of the technique, finds itself very appropriately the *de facto* central agency for training, planning, and origination of doctrines.

That the role of the FMF in naval gunfire development has been so largely overlooked and that up-to-date techniques and capabilities of the arm are so frequently not fully appreciated may perhaps be traced to its accelerated expansion. No one has had the leisure to publicize or disseminate its work; no Billy Mitchell was ever court-martialled for the sake of Victory-Through-Naval-Gunfire; and officers who saw its inception are in many cases completely unfamiliar with its beanstalk-rapid development. Fortunately, the phases of experimentation and expansion are virtually complete: what at Tarawa was tentative, on Iwo Jima and Okinawa is now a firm well-defined part of amphibious doctrine. Naval gunfire is here to stay.

"The U. S. Marines on Iwo Jima"

Col James A. Stuart reviews the book by five marine combat writers about the Iwo operation.

THE battle for possession of Iwo Jima was followed closely by every citizen of our country. The high cost involved brought home to many for the first time in stark reality the bitterness of the conflict being waged in the Pacific. So much was being paid for what appeared to be such a little dot on the map that many questioned the worth in terms of the price. This book, written by five of the official Marine combat writers present for the duration of the action, answers this question and, with exceptionally fine photographs and sketches included with the text, gives the reader a clear and readily understandable picture of what, when, where, how and why there had to be an Iwo campaign.

Amphibious operations are highly technical and depend for their success upon a mighty coordination of effort by all elements concerned. Split second timing must be second nature, with the work of the various complementary activities welded firmly into one team whose effort points directly at the enemy and never slackens until the objective is attained.

Through the medium of the experiences of individuals in this narrative is threaded a word picture of the trials and tribulations of this team as a whole in accomplishing its task, a task which will remain one of the outstanding feats of military history.

With the infantry you will lie in those black sands and among the canyons and boulders, bone weary and cold, fighting and fighting—to ultimately win. With the supply forces you will struggle and strive against the elements of weather and engulfing sand, continually hagridden by enemy fire. You will see your supplies, landed with so much heart-rending struggle, go up in smoke, but you start all over again—and finally win. So with each of the elements of that vast organization do you live their day-to-day life in the thunder of explosives, the sudden death and bad weather, to emerge finally victorious, having achieved at last what had seemed at times impossible. Every reader will find this book intensely interesting. If you were there you will live all over again each grim or shining moment. If you weren't, you will still feel the impact of every phase of that struggle as the ground was gained inch by inch, so that a true sense of achievement rides with the reader at the end when Iwo is yours. These combat writers have given you Iwo as it was.

Classification—Marine Style

How square pegs are fitted to square holes. More than 97 per cent of marines are classified. Punch a key at Headquarters and find the man with the needed skill. ***By Maj Paul M. McNicol***

COMPANY commanders of World War I brought the classification system into being. Their attempts to hide their best men from talent-hungry higher echelons by listing them as "laborers" were uncovered when a camp comander requisitioned the "laborers" for ditch-digging details and the company commanders moaned.

Job analyses and tests designed to place the square pegs in the square holes grew out of the subsequent uproar. This system, modified to circumstances, was adopted by the Marine Corps in 1942.

Classification did not remain static in the Corps, however. The system was tailored to fit special needs, and it was a mammoth job. Constant modification, which sometimes made instructions obsolete before they were entirely printed, resulted in the present system.

Today, less than 3 per cent of the Marine Corps remains unclassified. Current regulations will soon state that all enlisted personnel and every officer below the rank of colonel on active duty must be classified.

The purpose, evident even to the marine who may feel he was unjustly dealt with by the system, is to use in the most effective way the real and potential skills available to the Corps.

Every type of work was given a job analysis, completely cataloged, and listed under a specification serial number (SSN). Enlisted functions that are strictly civilian are assigned the numbers 500 and below; military specialties are over 500. Thus, a shoe repairman has the SSN of 204; a rifleman has the SSN of 745. The shoe repairman has a civilian skill applicable to military needs; the rifleman a military job.

This numerical catalog is just the beginning. The individual characteristics which fit a marine for a certain purpose also are determined. Classification aims to have every duty performed by a capable man.

Tests now given all marines, with scores recorded in service record books, make this possible. These tests, although not regarded as infallible and not the sole basis for classification, eliminate long, complicated interviews. They provide a standard or norm, for comparison with the average, indicate each person's ability, and provide the basis for an interview.

The General Classification Test asks questions of general knowledge to be answered in a specified time, and requires only that the person taking it read and understand English. The scores indicate how fast an individual is capable of learning.

Scores on this general test fall into five grades. The first, which goes from 130 to 163, indicates very rapid learning ability. The second, from 110 to 129, indicates rapid learners. The third, 90 to 109, includes the majority, or average learners. The fourth, 60 to 89, are slow learners. The fifth, below 60, is designated as very slow learners.

When standard scores are close, such as 114 and 116, no great difference in ability is indicated. However, the difference between the low and high men in a single grade is important. The man in low grade three learns more slowly than a man in high grade three. But there is little difference between 108 in grade three and 110 in grade two.

The second scale—the Mechanical Aptitude Test—measures knowledge of simple mechanical and physical facts, the relationship of things in space, and mechanical problems. MAT has the same meaning for learning mechanical operations that GCT has in general learning speed.

The radio operator's aptitude test predicts a man's success in differentiating between code groupings, and the clerical test predicts how well he will perform clerical duties. These special tests, given to those seeking entrance to specialized schools, are generally not a part of the induction tests.

It might seem that tests give an accurate portrait of a person, but experience proves this untrue. There are many facets to a personality, and each test measures but one. Tests merely provide a basis for appraisal of capacities. Thus, the interview is of primary importance, for in it the classification officer finds out about the individual's education, vocation, avocation, interests, traits, personality, and human differences.

AN interviewer can discover that a man is happiest working outdoors, or works best in an office on a single problem which demands his entire attention. There are those who like working with many people; those who work best by themselves or in small groups on a highly specialized operation; and there are others who are happy only when on the move.

The man's ability to perform tasks requiring varying degrees of strength, endurance, and physical capabilities are noted in the interview. For example, is the inter-pupillary distance of a marine's eyes within the allowable range for a range finder operator? He may have all the other physical and mental attributes necessary, but if the

space between his eyes is insufficient, he cannot operate a range finder well.

The time spent in the classification interview with a marine is short when compared with his probable length of service. Careful consideration of skills at this interview saves later fumbling and certainly boosts morale. The old system of shoving a man from job to job, hoping he eventually finds one he can do, has had to be eliminated.

RESULTS of tests and the interview of each man are placed on a qualification card, known as Form 940a for enlisted men and 940b for officers. (Forms 940c and 940d are for Women Reserves.) These cards are made in duplicate. One copy becomes a part of the marine's staff returns, accompanying him wherever he goes. The other is filed at Headquarters. On each is recorded education, hobbies, civilian and military skills, experience, etc. These items, numbering about 30, contain all the information necessary to assign a man as soon as he joins a command. It is necessary, of course, that this information be accurate and every attempt is made to keep it so.

The card that goes to Headquarters has much of its information transferred to IBM cards on machine records. These cards can provide a wealth of information in a few minutes. For instance, if it is desired to know how many marines between the ages of 19 and 22 speak Chinese, the information can be had rapidly. Analysis of the cards also shows the number and type of skills available, what skills are abundant, and what ones are scarce. Induction may be governed, or training programs drawn up so as to increase needed skills. The file is a catalog of talents which simplifies the compiling of statistical data and provides source material for reports any time higher echelon wants to know a personnel situation.

After a marine has been classified, the classification officer turns his attention to the assignment procedure. Every attempt is made to conform to the following rules in assigning marines:

1. The initial assignment must be appropriate to minimize subsequent transfers.
2. Occupational skills must be distributed where most needed.
3. No one unit should be unduly burdened with the training or disposition of great numbers of men in the lower aptitude brackets.
4. Personnel selected for training must be chosen with due regard to their ability and aptitude for the course.
5. Personnel physically classified for "limited duty" must be assigned to jobs where they can be used to the greatest advantage.
6. Combat units should be given priority on men with military experience or with leadership ability.
7. Classification records should be kept up to date so that special skills can be found promptly.
8. The discouragement and frustration of individuals, assigned above or below their abilities, must be avoided by assigning men to duties commensurate with their abilities.

The unit classification officer should interview new arrivals, classify if necessary, and recommend assignment after checking their records. By continuous classification, personnel data is kept up-to-date and each man is properly assigned. Misassignment is controlled by (1) checking on the classification system and (2) by visits of mobile classification units from higher echelons.

Classification has become integrated with administration right down to company level. In all correspondence and reports, an SSN is placed after a marine's serial number. Personnel are requisitioned by SSNs.

Classification has improved on the old replacement battalion. Instead of ramming any group of men into a replacement battalion, shipping them off to a transient center where they spend many idle weeks awaiting assignment, they are picked now according to SSNs. Requisitions from the field are based on the SSNs required, and the men are selected by SSNs from training commands. Formed into a replacement draft, they are sent directly to where they are needed.

For instance, requests totaling two or three thousand men of various skills arrive at Headquarters. When these requisitions have been winnowed and approved, the men are lifted from posts, stations and training commands by an order instructing commanding officers to earmark for transfer a specified number of men with certain skills. If there are not sufficient men, a levy is made on such posts as Quantico or Pendleton or the navy yards. Assembled at a training center, the men are sent to a port of embarkation, where a roster is compiled to show the serial number, rank, and SSN of each man. As the draft embarks, a copy of this roster is sent to the organization which will receive the draft, and to the Transient Center FMF, PAC. Thus, each command knows exactly how many men are en route and what skills they possess.

COMBAT replacements have been directly assisted by classification. It is possible to replace skill for skill, because the 1-Section of the combat outfit keeps a roster with SSNs. As casualties are reported, personnel with similar numbers are sent up from available replacements. This makes it possible to replace casualties during combat instead of waiting until the unit is so short of men it must be withdrawn for reorganization.

An examination of the SSNs of large-scale replacements reflects the primary factor in assignment—the current need of the service. To the battalion commander the need for a BAR man is truly within the need of the service, but the overall training is on a scale designed to meet all demands rather than just those of one battalion. The

quality of performance, the amount of experience or training and the recency of training are extremely important, but subordinate, factors.

In addition to the SSN, most individuals have a secondary specification number. This is the skill the yperform second best. The primary is designated by (Prim) on the qualification card; the secondary is shown as (Sec).

Regardless of his duty, a man's primary SSN remains the same until he is reclassified. In every command the necessity arises to reclassify the unsuccessful. Men whose age hinders competition with younger men are reclassified to duties in keeping with their physical ability, experience and years of service. Careful consideration should be given to the rehabilitation of marines who cannot render full military service because of physical deficiencies. Whenever competent authority determines an individual is not performing duties appropriate to his physical abilities, he will be reassigned and reclassified accordingly. The emotionally unstable, who fail to adjust themselves, will be reclassified for duties more suited to their capacities.

Because of the extreme attrition rate among military students, men who are mentally, emotionally or physically incapable of absorbing instruction should not be sent to higher schools or specialists' courses. When practicable, men unable to absorb instruction should be relieved by others who are capable. Classification has been extremely valuable in finding minimum requirements for courses offered to officers and enlisted men. Men absolutely incapable of successfully completing a school or specialist course can be determined ahead of time by referring to their GCT score. Selection increases the efficiency of schools because they don't have to slow up or reach down for men of low acumen.

NEW skills may be developed, at schools, which will most likely give the individual a new SSN. When a man is classified in a military specialty, either by specialist school or job training, an appropriate entry should be made on his card. A similar note on the change sheet will be noted at Headquarters. Then his duplicate qualification card will be altered and a new IBM card issued.

In battalions and higher, classification personnal are assigned with definite responsibilities. Among these are:

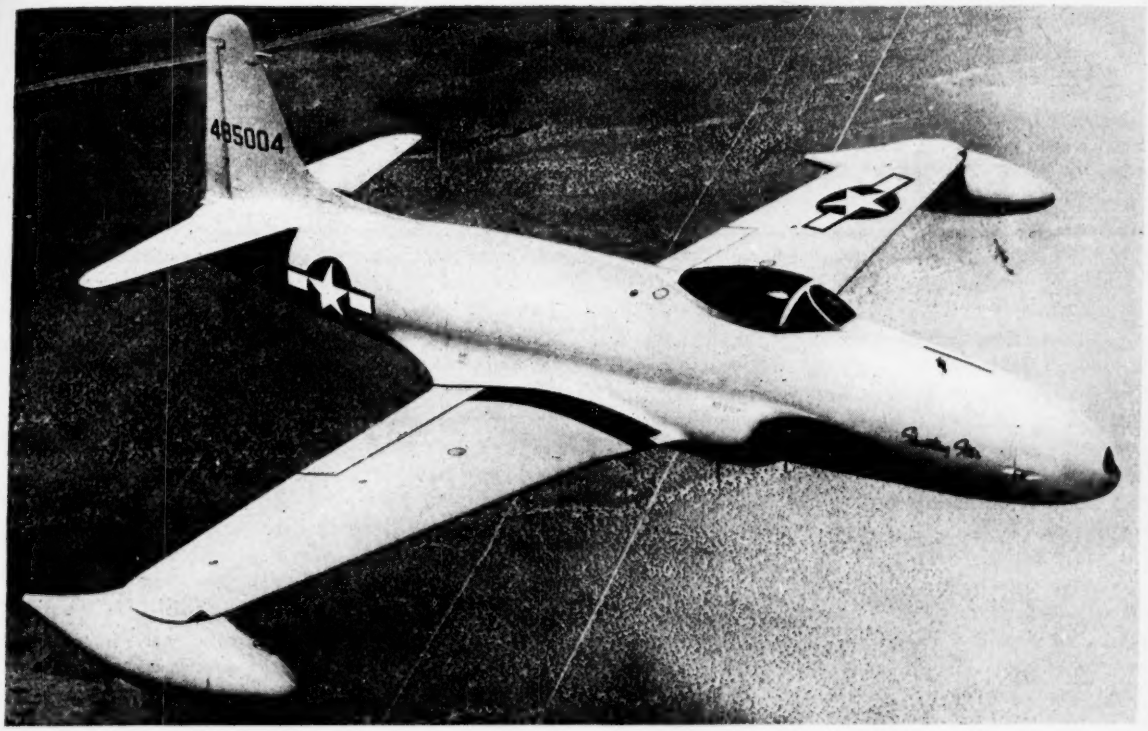
1. Maintaining qualification cards or other data essential in considerations of assignment, transfer or promotion.
2. Furnishing information to unit commanders on men up for promotion, special details or transfer.
3. Conducting periodic inventories of occupational specialists as directed.
4. Recommending duty assignment of newly arrived troops and reclassification of enlisted men.
5. Recommending reassignment of enlisted men who have been misassigned.
6. Keeping qualification cards current, with entries on the card from the reports received, noting ratings, schools attended, qualifications, military specialties and other data to guide future appointment and assignments.
7. Making periodic checks of the duty assignment of enlisted men and preparing assignment lists showing their military qualifications.
8. Keeping commanders informed of the utilization of existing skills.

CLASSIFICATION is a command responsibility. Commanders must requisition personnel by SSNs in accordance with T/O allowances. Their chances of getting the personnel they want will be increased by a knowledge of what skills are available. If a commanding officer utilizes his Classification Section, he can find skills within his command that he would have hardly imagined. Perhaps the secondary specification numbers will make it unnecessary to requisition personnel. A movie projectionist or a man who has been to camouflage school may be found by reference to the qualification cards.

Many marines returning to the United States required further classification. The old system poured men into several ports, many without staff returns and most without equipment. Reports reaching Washington were pyramided and so confusing that it was never known, even approximately, how many skills were on hand. A man would leave a port of entry, be shuffled from one place to another, then finally get a furlough and fight his way home. After waiting two or three days for train space, plus time spent traveling, he had but a few days at home before starting back to duty.

This has been corrected by reclassification and redistribution centers at San Diego and Philadelphia. All men returning to the United States are filtered through one of these. Reports from these centers tell Headquarters the number of processed men available in the United States. Upon arriving at the centers, marines are classified or reclassified, if necessary, and their records put in proper form. They get haircuts and uniforms, telephone home and generally get squared away. Arrangements are made to get the marine home and back to duty in the least amount of travel time. Special trains are chartered and routed. This is particularly effective for large drafts. Men get home three or four days after arriving in the States instead of waiting many weeks.

Work is now being done to determine what jobs the marine can do best on the "outside." The United States Employment Service is working with Regional Assignment Officers to help place discharged veterans in civilian jobs. Each will be classified again. Skills learned and developed in the Marine Corps, as well as duty experiences will be considered. The men will be advised to try jobs they can best perform.



Fastest Plane

Lockheed P-80 Shooting Star broke every known speed record on its first flight.

THE War Department has taken most of the wraps off the jet-propelled Lockheed P-80 Shooting Star, a pilot's dream come true. Now in production at four Lockheed factories in Burbank, Calif., the sleek new fighter would be giving the Japs nightmares if they had not surrendered.

The world's best pilots, with a heavy backlog of missions in fast jobs like the Lightning and Mustang, have put little restraint on their enthusiasm after flying the P-80. "Anything that needs a propeller to fly is just plain obsolete," is a typical reaction.

In one test flight, a P-80 made a pass at a B-29 and came in so fast that not a man on the Superfort saw it come or go. If you happen to be indoors when you hear one overhead, don't bother to run outside. It will be gone before you get out the door.

Actual top speed is still a secret, but the AAF admits it's the fastest plane in the world, and comes nearer to the speed of sound than any other man-made vehicle ever has done before. The official statement is that it travels more than 550 miles an hour (on a recent test flight, a P-80 flew 555 miles from Wright Field at Dayton, Ohio, to New York in 62 minutes, and the pilot said he had not tried to push it to its greatest speed).

The Shooting Star is the cleanest plane ever built. Not a rivet can be seen under its slick finish, and pilots say it flies with unbelievable smoothness. There is no vibration, and the pilot feels an increasing sense of power as it picks up speed.

While it is the hottest thing ever to take the air, the P-80 is amazingly easy to handle and is much better than conventional fast jobs in close formation flying maneuvers, even at its most dazzling speeds. Its rate and angle of climb at high speeds are, in the words of an official release, "superlative." It creates no new flight problems. Any competent pilot can fly it.

The P-80 functions smoothly at greater altitudes than other planes, and the super G-E jet actually operates more efficiently at extreme altitudes. Pilots function in a cabin kept at virtually normal temperature and air density, regardless of altitude. Eight miles above the earth, going more than 550 miles an hour, the pilot doesn't have to wear an oxygen mask or heavy clothing.

Such startling performances as the P-80 already has to its credit (it broke every known speed record on its first flight) are achieved without propeller, radiator and many of the complex controls and instruments common to ordinary planes. Kerosene is burned in the jets to give the P-80 its power.

The Shooting Star's armament is located in the nose for the most effective concentration of firepower. Its guns shoot parallel streams of bullets that are equally effective throughout their entire range. This feature should be of interest to the Japs, since they would have been the judges of its effectiveness.

Additional Duty Chart

When it was necessary for a marine bombing squadron to provide for the simultaneous relief of 30 pilots, this is how the resulting shift of personnel was worked out. ***By 1stSgt Kenneth Eaton Goldthwaite***

FACING the problem created by a large turnover of personnel resulting from the rotation system, the CO of an aviation squadron finds himself with numerous officer assignments which must be made quickly so that his organization may continue to function smoothly. And since the primary function of Marine NA officers is the flying of planes, their additional duties must be clearly outlined and defined.

A Marine Bombing Squadron, PBJ-1, is used here as an example because of expediency and experience, but a modification can be adapted to almost any type of squadron. The problem in this instance was the simultaneous relief of some 30 pilots, all of whom had been with the squadron 10 months or more. To these officers, duties had long since become a matter of routine.

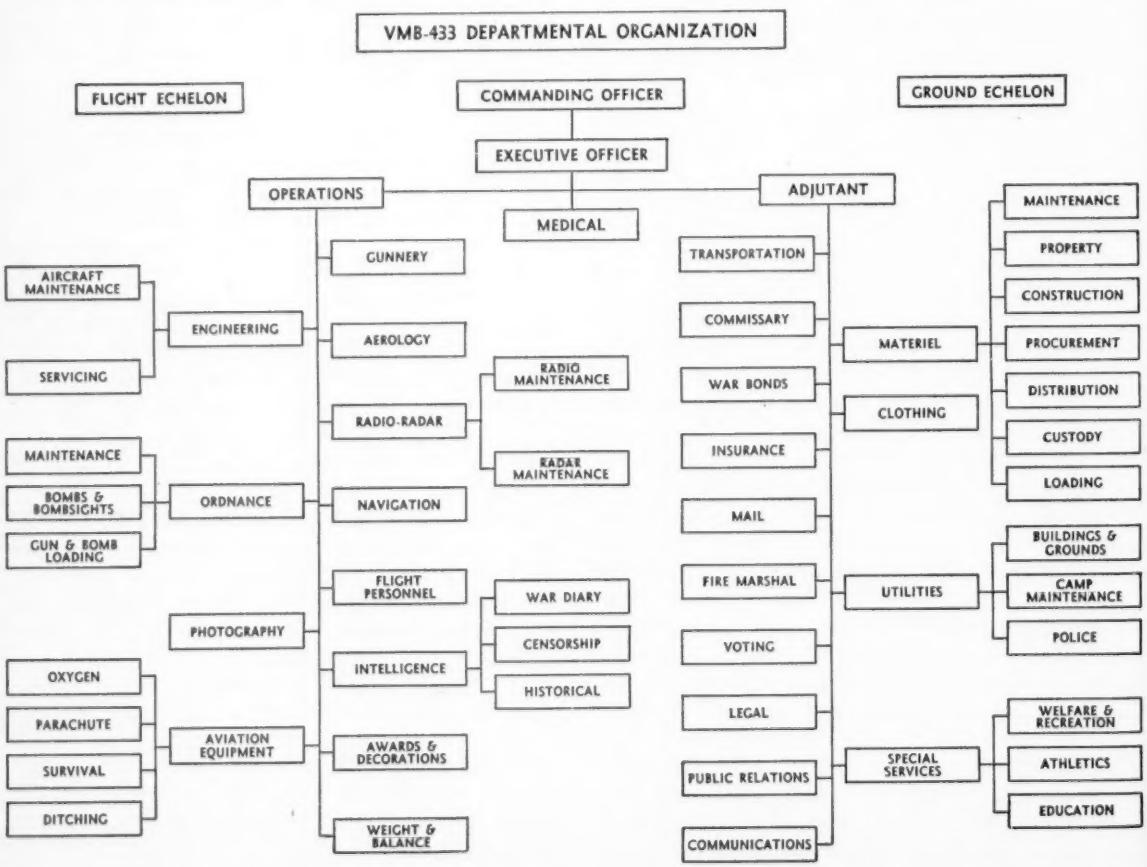
At conferences between the various department heads and the commanding executive and operations officers a rough draft was formed of the accompanying chart, and, following its final approval, was corrected and reproduced in a quantity sufficient for all bulletin boards, department offices and the pilots' ready-room.

The chart showed each officer the relation of his department to other departments and the chain of command by which special problems could be presented for high review. It showed also in an inverse ratio the degree of individual responsibility to subordinate as well as superior departments.

As soon as the monthly Muster Roll Work Roster and Station List showing the new assignments were posted, this chart was displayed alongside. An explanation of the purpose of the chart and functional outline was made during the first general briefing.

Before assignment to any additional duty was effected, careful use was made of the Form 940-B cards. Officers were interviewed and permitted to express preferences, these preferences being followed insofar as expediency would permit.

To assist the newly-assigned officers further and



to insure efficient operation, a collection was made of all orders and memoranda, those promulgated by the Squadron as well as those of higher echelons. These orders were arranged in order of subject matter and indexed, then bound together as "required reading." The file was bound in loose-leaf form so that changes and additions could be inserted.

Wherever possible, the immediate retiring department head was made available to offer assistance to his successor, the extent of this assistance being necessarily governed by the volume of work incorporated in the "additional duty" of that department. NCOs were encouraged to give constructive criticisms, and to offer suggestions and ideas.

The results were two-fold: the incoming officers were impressed with the spirit and purposeful direction of their new organization, besides being made to feel the importance of their additional duties. And since the changeover was made with a minimum of confusion, a remarkably high degree of efficiency has already begun to appear in squadron operation.

It is planned to rotate officers in various departments on a three-months' basis wherever feasible, thus helping to avoid stagnation in any particular department and giving the individual officer a broader experience in administration.

FOR THE FUTURE

Jap surrender will not mean the end of our job, for there still will be many months, possibly years of work to readjust the Japanese and the people of the many islands of the far Pacific to the plan for world peace.

The Marine Corps has represented the United States in every corner of the earth for 169 years and our part in enforcing the peace will be as great as any other phase of Marine Corps history.

The energetic pursuit of our responsibilities will require more than ever your keeping well informed of activities throughout the Corps. THE MARINE CORPS GAZETTE will do this job for you in peace as well as in war.

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What's New

Trends of Military Interest.
By T/Sgt. Ray Moulden

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¶ Floating airdromes 2000 feet long and composed of thousands of pontoons linked to keep a level surface when waves are running have passed British Navy experimental tests and the Admiralty now feels such landing strips anchored in mid-ocean definitely have practical post-war uses. First floating air strip was built by Americans early in the war, using British-American designs. Since, the British have constructed several improved types on which large land planes may be landed successfully. So far, however, the floating dromes have been practical only in sheltered waters. British after-war air transport contemplates their use extensively.

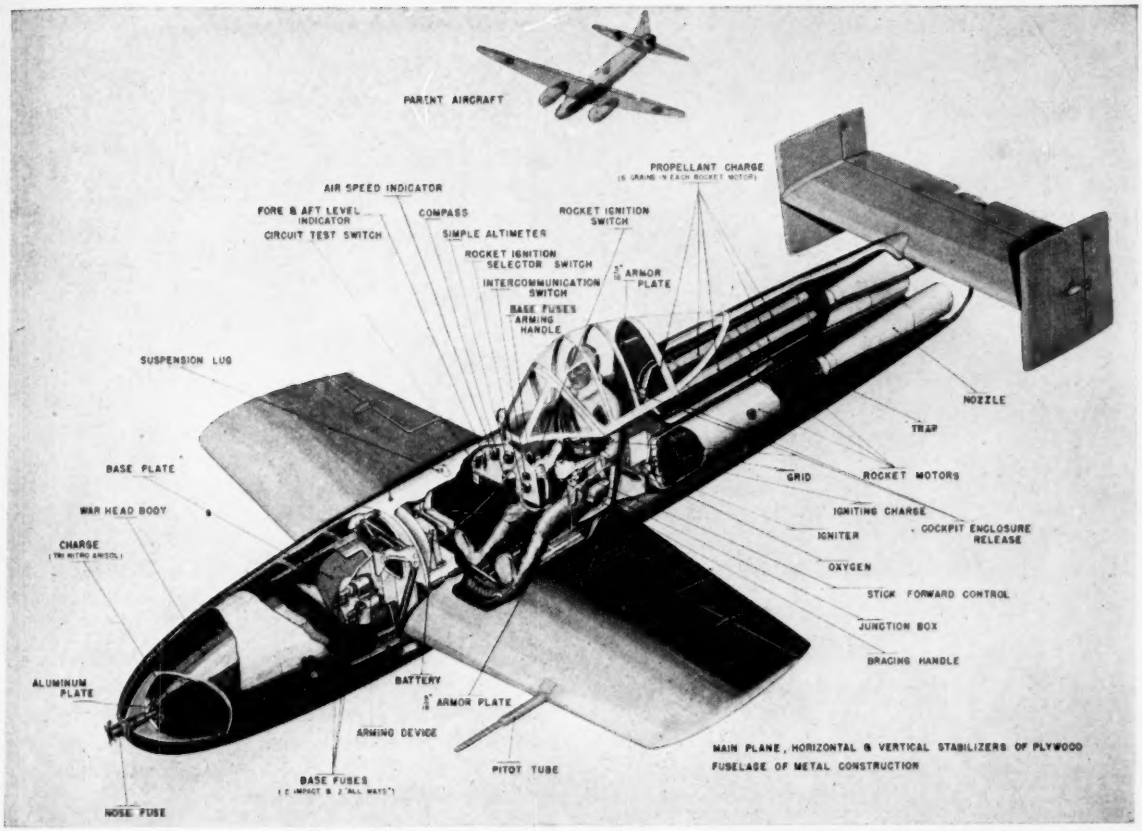
¶ Ordinary glass marbles are now being used in the manufacture of radar transformers for the Navy, since considerable experiment showed all other materials trapped air when the transformer container was filled with oil. Cheaper than buying from glass companies was the purchase of the entire stocks of retail toy stores in the plant area.

¶ A new fuel tablet which will burn for seven minutes is being manufactured for heating combat rations at one-third the cost of the original tablet, which was made from trioxane, solidified alcohol and wax. Now, metaldehyde is being used, which, unlike trioxane, does not absorb moisture, is stable and hence can be shipped without hermetically sealing the packages.

¶ The new Consolidated-Vultee B-32 Dominator, a grownup Liberator with two and a half times its predecessor's fighting power, is considered by some experts as superior to the B-29. Whatever the merits of the argument, the new heavy bomber has the following characteristics: It is slightly smaller and 15,000 pounds lighter than the B-29; has a cylindrical fuselage with bomb-bay doors that slide up the skin when opened, reducing deceleration and visibility; is equipped with adjoining bomb bays able to carry much larger missiles than the Superforts; is not pressurized, but will fly to the target at comparatively low levels, then climb high with the crew on oxygen for the bombing runs; its gun turrets are individually operated and able to throw up a cone of fire at any angle; its propellers are over 16 feet long (longest yet used in combat planes) yet clear the deck by better than two feet, due to high landing gear, and are completely reversible, permitting much shorter landing runs. The plane is distinguished by a huge single rudder

Legless vets at Forest Glen, Md., learn to drive automobiles built for amputees.

Japs booby-trapped this head of cabbage by cutting out a space for the grenade.



Another kamikaze device is the Baka bomb, a rocket-propelled, miniature plane about 20 feet long. Released from a larger plane, it is piloted to its target.

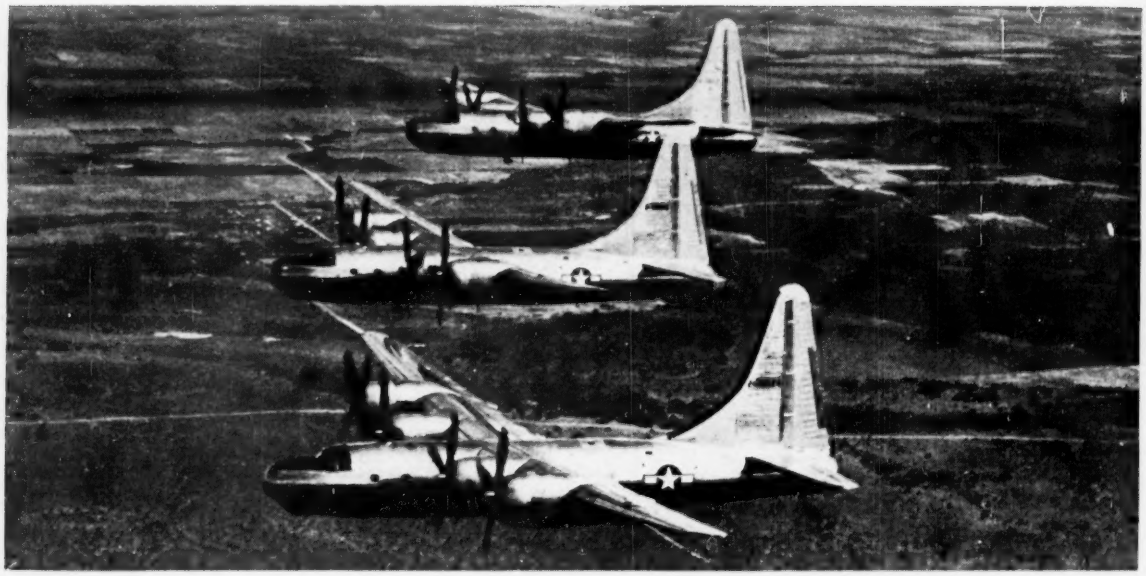
and fin 32 feet 8 inches high, highest yet used. For the first time on any bomber it uses the new Curtiss automatic synchronizer for all four engines. Elimination of pressurization and central fire control is said to have permitted increased armament and bomb-carrying ability. With the same 8800 hp power plant as the B-29, Consclidated's craft is said by the pilots of the Far Eastern Air Force, operating off Okinawa, to be "a dream ship for heavy bomber men." Here is the statistical picture of the B-32 against the Boeing B-29:

	B-32	B-29
Wing span	135 ft.	141 ft. 3 in.
Length	83 ft. 1 in.	99 ft.
Height	32 ft. 2 in.	27 ft. 9 in.
Weight	120,000 lbs.	135,000 lbs.
Speed	Over 300 mph	Over 350 mph.
Bomb load	Secret	20,000 lbs.
Range	Secret	3600 mi.
Armament	Secret	10 or 12 guns
Crew	Eight	Eleven
Power	8800 hp.	8800 hp.

¶ A jet-propelled fighter designed for top speed of 725 miles an hour—but apparently not as potent as our own P-80, generally considered fastest aircraft in the world—was built by German manufacturers before the war in Europe ended, but never saw combat. Maj. Alexander de Seversky, investigating German aviation as an advisor to the U. S. Secretary of War, reports the construction of the craft, which apparently never had been flown. He also believes the Germans planned converting the Messerschmitt 264 bomber to jet propulsion by substituting turbo-jets for reciprocating engines. The idea was that the 264 then could be used as an effective trans-Atlantic bomber; however, the Nazis never solved the fuel problem involved.

¶ Self-cooling water bags for service use are being made of cotton duck instead of scarcer flax, the duck being processed for the use by synthetic resin treatment. This leaves the fabric porous enough to permit a small amount of water to soak through, evaporate, and thus cool the rest of the water in the bag.

¶ Yoke-type life preservers designed for wear with full infantry equipment are now replacing the dual tube, carbon dioxide life belts for troops carried on Navy transports. The new preserver is made of kapok and can be removed quickly on the beach without disturbing gear. Infantrymen's packs can be removed if necessary without taking off the new preserver. The yoke has sufficient buoyancy to support a man fully equipped with helmet, rifle, ammo and pack. When properly



An outstanding characteristic of the new B-32 is its 32-foot-high tail surface.

adjusted, it will support an unconscious man with his face out of water.

¶ North American Aviation has modified the P-51 Mustang as the first modern top-flight fighter adapted to dual instruction. The new trainer version is called the TP-51, and the Air Technical Service Command called for the altered ship to meet the need for fast training of fighter pilots for Pacific operations, where Mustangs are used as B-29 escorts.

¶ The Equipment Board, MC, is testing a new engineer armored vehicle which includes an M4-A3-E8 medium tank chassis on T-80 tracks, armed with a demolition rocket launcher, a dozer blade, a flame thrower and an M-3 snake launcher.

¶ Procurement has been authorized by HqMC of armored exhaust deflector kits for installation on medium tanks, M4-A3; medium tanks, M4-A3 with 105-mm howitzer; and mortar carriage, 105-mm howitzer, M7-B1. The unit contains a tested grill found to provide satisfactory protection against small arms fire, grenade fragments and ground bursts. All tanks and carriages now being purchased for the Marine Corps will be equipped with deflectors before delivery.

Tests of products used by the Army can be made on the spot in this trailer lab.

¶ Marine Corps has completed tests showing the aluminum 55-gallon drum practicable for delivery of various types of liquid by parachute. It is not suitable for use as a free-drop aerial delivery container, Headquarters states, however. Commanding General, FMFPac, is considering means of employing the drum.

¶ The Marine Corps Equipment Board has found after a series of tests that the new pot type burner for field bake ovens is superior to the Burner, US MC, M1942. However, procurement has not been authorized pending reports from the quartermaster department on whether there is sufficient production of the burner to permit purchase in bulk.

¶ The new plastic helmet, made of doron, has been turned down by the Marine Corps Equipment Board as undesirable for replacing the current metal head covering, M-1. Primary reason was that tests showed the plastic absorbs moisture, with layers of plastic peeling from the helmet when wet. Furthermore, it does not offer any more protection from small arms projectiles than the current helmet, nor can it be used as a wash basin or cooking utensil.

¶ The Army has adopted a new tear gas grenade for use by MPs or occupation troops. Shaped like a baseball, the grenade is fired by pulling a safety pin and holding a finger over a release plug, then throwing the missile as a ball is thrown. The plug is forced out and the thin, plastic coating bursts, scattering a fine powder spray which acts immediately. Older types had a delaying action gas which

often permitted those they were thrown at to run out of range.

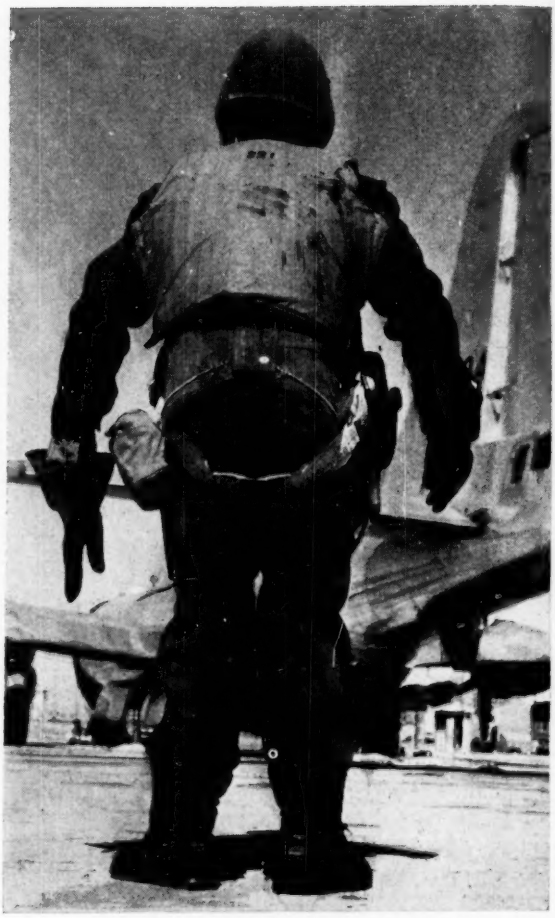
¶ Japanese attempt to deploy our forces by setting up a false town on Okinawa, through use of various types of camouflage particularly aimed at air observers, failed when landings were made on the north central coast. The Japs had set up a "ghost" city in the northwestern sector which from the air appeared to be a town of at least 8000 persons. The Japs had plowed the ground in ways to indicate intricate patterns of houses and streets. When our troops turned southward, air observation was much more accurate and the imitation was detected. The camouflaged area was set up just north of the real town of Itoman.

¶ A Nazi warplane with propellers in both the nose and tail has been found nearly ready for mass production. Built by Dornier, it was designated the DO-335, and in flight tests by American pilots has developed cruising speed of 425 mph at 25,000 feet, with a top speed considerably higher. With the nose engine alone the ship can do 350 at 19,000 feet. In one test across France, the airplane landed 40 minutes ahead of a P-51 Mustang supposed to be escorting it. Tests showed it usable as a fighter, bomber, night interceptor or reconnaissance craft. It has thick, short wings, is powered by 12-cylinder V-type air-cooled engines turning three-bladed propellers and has a moderate-sized bomb-bay ahead of the rear engine.

¶ The new Chance Vought F-4U-4, now powered with a 2100-hp Pratt and Whitney radial engine and four-bladed propeller, is much more effective than the older type, but still has many bugs to be ironed out. Now developing speeds up to 425 mph,

Flexible strato suit of rubberized fabric puts four-pound air cushion around flier.

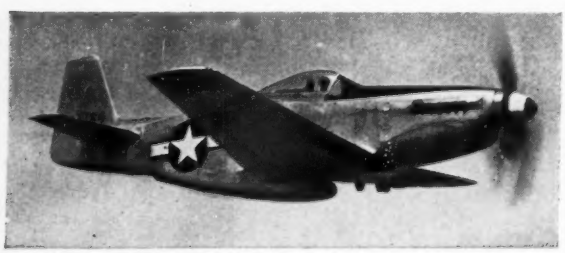
Helicopter with controllable wing eliminates necessity of ailerons, elevators, rudders.



Combat equipment worn by B-29 crewmen in danger areas includes warm overshoes, an electrically heated suit, gloves, steel helmet, flak jacket and an oxygen mask.

the new Corsair is being used on most carriers by both Marine and Navy pilots and is the fastest single-seated fighter the Navy has. While it is undoubtedly a fine airplane, those most familiar with it report there is still much to be done. The propeller is a four-bladed standard Hamilton hydromatic; the engine cowling is elliptical shaped with an air intake at the bottom of the arc, and the engine cowl flaps are larger and fewer than in earlier versions.

¶ The Germans converted an ordinary truck into a dump truck by use of a false bottom which could be pulled up to throw the contents out of the back of the vehicle. The false bottom, of 2x6s, connected at one-inch intervals with wire or rope, was as wide as the truck bed and was drawn to the top of the driver's cab. The mat was fastened near the tailgate, and at the opposite end a long piece of wire or heavy rope was attached. At the unloading place the truck was backed to a tree or pole to which the wire or rope was secured and the truck driven forward. This pulled up the mat, unloading the truck in one operation.



The new North American P-51-H in flight.

¶ Marines on Okinawa used a new ammunition belt—half of a regulation M1 belt and half of a Browning Automatic Rifle belt. The M1 half of the belt was used for rifle ammunition, while the BAR section provided space for hand grenades, rations and cigarettes.

¶ The Surgeon General has designated 20 naval hospitals as centers for distribution of contact lenses to patients suffering from specific visual defects. Only a limited number of defects will be allowed contact lenses, and these must have originated during active service.

6thMarDiv

(*Continued from page 26*)

city toward the Kokuba River. To the Sixth Reconnaissance Company went the task of purging the city of snipers and small enemy groups.

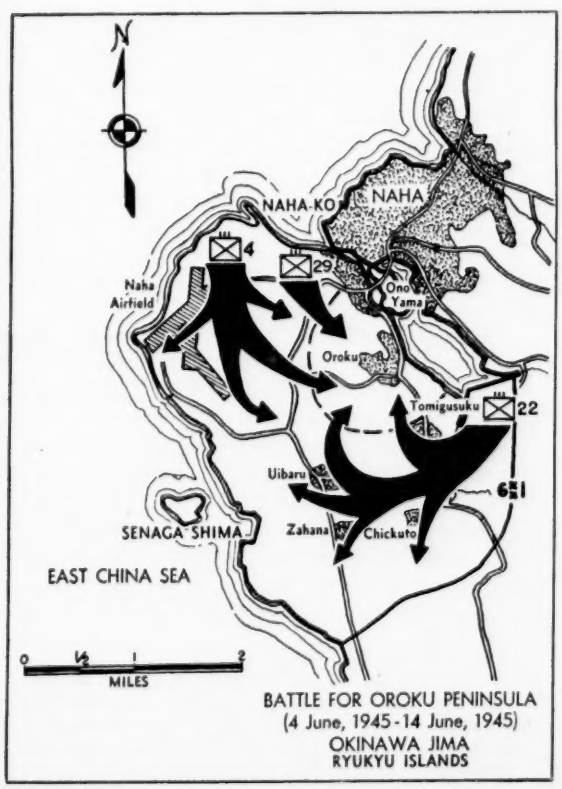
By 1 June, the 22d and the 29th Marines had reached the north bank of the Kokuba River and the eastern border of Oroku Peninsula, the 6thMar Div paused upon orders from higher echelon.

It is generally agreed that the most heavily defended area on Okinawa prior to the landing of our forces on 1 April, was Oroku Peninsula. This peninsula contained Naha Airfield, the most prized objective in the Ryukyus. Furthermore, this peninsula was strategically located in regard to Naha Harbor and the defense of the southwestern coastline.

Oroku Peninsula contained the heaviest concentration of antiaircraft installations on Okinawa in order to protect Naha Airfield and Naha City and Harbor. It contained the heaviest concentration of coastal defense guns to protect the landing beaches extending roughly from Itoman to the Machinato Airfield Vicinity.

Aerial photographs as early as October 1944, showed large numbers of ground defenses on the peninsula and signs of a vigorous effort to develop those defenses.

From his excellent OPs on the high ground of Oroku Peninsula, the enemy watched the 6thMarDiv drive southeastwardly through Naha to the Kokuba River. He disposed himself along the neck of the peninsula and moved his weapons and supplies to meet the attack from the east.



BATTLE FOR OROKU PENINSULA
(4 June, 1945-14 June, 1945)
OKINAWA JIMA
RYUKYU ISLANDS

During 2 and 3 June, however, units of the 1st-MarDiv relieved the 6thMarDiv at the Kokuba River and plans went forward for an amphibious operation against Oroku Peninsula.

Then, on 4 June, the Fourth Marines landed on the western beaches of Oroku, catching the enemy almost entirely by surprise. Resistance was light at the beach and the Fourth Marines swept southwestward across the coastal flats to capture Naha Airfield. The 29th Marines came ashore on 5 June and took up positions on the left of the Fourth.

The enemy attempted to re-deploy his forces from the east to the west. He chose to defend the high ground along the northern fringe of the peninsula and along the northeastern border of the peninsula where his most elaborate positions existed.

GEN Shepherd ordered the 22d Marines to cross the Kokuba River and swiftly seal off the peninsula on the east. This was speedly accomplished. Now, the 29th Marines was pushing into the high ground from the west, the Fourth Marines from the south, and the 22d Marines from the east.

By two quick tactical moves, the 6thMarDiv secured a foothold on Oroku Peninsula almost bloodlessly. Later examination of the terrain and defenses showed that if the enemy had anticipated the amphibious operation, Oroku would have been bloody and terribly difficult.

Though the amphibious operation and the subsequent commitment of the 22d Marines on the east reduced the enemy into a pocket on the peninsula, the enemy nevertheless was able to conduct an efficient and tenacious defense.

As has been mentioned, the enemy's defenses were elaborate. An admiral's cave was found near Tomigusuki that had underground barracks, operation rooms, field officers' quarters, galleys, running water and electric lights. Many caves contained steel sliding doors. Whole hills were tunnelled through and contained chambers for living quarters and storage connected to gun-ports. Each of these hills within the enemy's pocket was something of a land battleship containing ammunition and food storage, living quarters and battle stations. BrigGen William T. Clement, Assistant Division Commander and veteran of Bataan, pronounced Oroku "fifty times as strong as Corregidor."

THE three regiments of the Sixth exerted heavy pressure against the pocket, systematically reducing it in the face of heavy infantry weapons fire, 20-mm fire and rockets. By 14 June resistance had been broken and only a few survivors remained

in their Oroku caves had to be hunted down.

It was significant that toward the close of the Battle for Oroku the enemy abandoned his sober and calculated tactics. A reckless banzai charge was vainly attempted, as were costly night infiltrations. Through the application of psychological warfare methods and the heroic and determined efforts of G-2 personnel, large numbers of the enemy were induced to surrender. Admiral Ota, the Japanese commander on Oroku Peninsula, dramatically committed suicide in his elaborate underground headquarters together with his staff.

By 14 June, approximately 4000 dead enemy naval and army troops had been counted on Oroku. Naha Airfield was added to the imposing list of military prizes taken by the Sixth. Salvaging operations in Naha Harbor were underway. Then the Sixth turned south to finish the job.

When the bulk of the enemy's force moved south from the Naha-Shuri-Yonabaru Line, as the result of the enemy's defeat at the Asa River and at Sugar Loaf Hill, it moved toward the Yaeju Dake-Yuza Dake-Kunishi Line. This, of necessity, was to be the enemy's final defensive line.

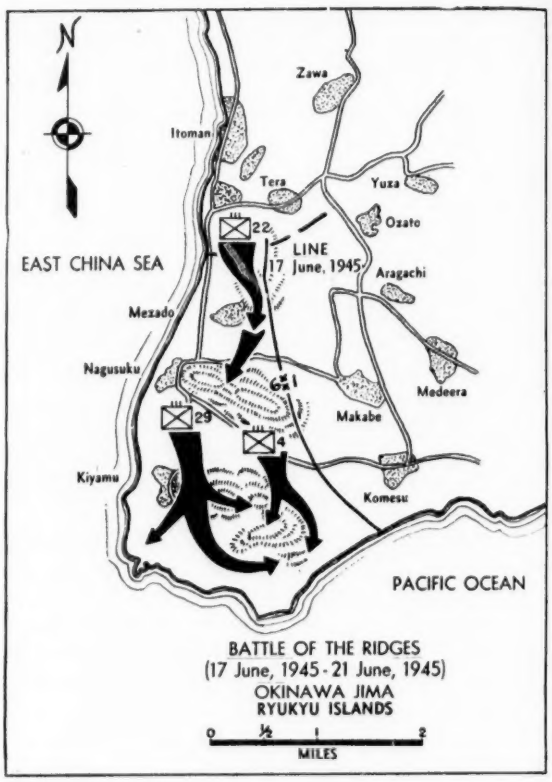
The Line had many of the advantages of the Naha-Shuri-Yonabaru Line. Its flanks rested on the sea. It provided the enemy with excellent observation of both our forward and rear areas. The enemy had short lines of communication. And finally, the enemy was utilizing formidable natural obstacles for defense from one coast to the other.

It must be considered, however, that the enemy's efficiency had been severely reduced as the result of his defeat at the Naha-Shuri-Yonabaru Line. Furthermore, the enemy was lacking in guns, ammunition and food, and he faced the problem of having thousands of vagrant civilians wandering about in the concentrated area that remained to him.

The Jap was waging a defense of attrition when the Sixth was ordered into the lines following the Battle for Oroku. The Seventh Infantry Division on the extreme left was making slow though steady progress on the Yaeju Dake Plateau. On the right, of the XXIV Corps was advancing with its left flank resting on the sea.) In the center, the 96th Infantry Division was making slow and difficult progress on the Jaeju Dake Plateau. On the right, the 1stMarDiv was fighting its way forward slowly along the jagged coral slope of Kunishi Ridge.

The Sixth was ordered to relieve units of the 1stMarDiv on the extreme right flank, even as it had been so ordered at the Asa River on 10 May. Again, the orders called for the Sixth to take up a position in column of regiments with the 22d Marines in assault.

Facing the Sixth were three coral ridges which ran inland from the coast. The first of these was called Mezado Ridge. The second was called Kuwanga Ridge. The third—and the last ridge on Okinawa Jima—was called Kiyamu Ridge. Each



of these was a difficult natural obstacle. Each contained myriads of caves. Defending each of these ridges were troops of the 1st and 2d Bns of the enemy's 32d Regiment.

The battle-weary 22d Marines under Col Harold C. Roberts* faced these three great hurdles. The attack commenced 17 June. By nightfall, Mezado Ridge belonged to the 22d Marines.

On 18 June, Kuwanga Ridge—the second of the hurdles—fell. The Fourth Marines relieved the 22d Marines and on the 19th it was driving up the jagged slope of Kiyamu Ridge. During the following three days, the 29th Marines and the Fourth Marines completed the elimination of the hundreds of enemy troops.

During the closing days of the Battle of the Ridges, the Sixth took approximately 2500** prisoners—of which approximately 1000 were Jap soldiers rather than Okinawan Boeitai or Koreans.

On the 82nd day of the Okinawan Operation, the Sixth raised the American Flag on Kiyamu Ridge. The job that had commenced 1 April had been completed. This division had raised Old Glory over both Northern and Southern Okinawa in its baptismal operation as a division.

Japan lay approximately 400 miles to the north.

Col Harold C. Roberts was killed 18 June 1945, at his OP. LtGen Simon Bolivar Buckner, Commanding General, TENTH ARMY, was killed the same day.

***This figure was increased by several hundred following the raising of the American Flag over Southern Okinawa.*

Night Attack

(*Continued from page* 37)

establish three four-man patrols to the front, one leading each column. One four-man patrol on the right flank.

"KING—a. Your objective is the small knoll with the scattered pines on it on the west end of Hill Able.

b. Formation—line of platoon columns.

c. Forward assembly area—about 300 yards to the rear, on this reverse slope, just this side of the bare rocks.

d. Rate of advance—100 yards in eight minutes.

e. Limit of advance—100 yards beyond crest of Hill Able.

f. Reorganize immediately and be prepared to repel counterattack.

g. Mission at daylight—To support by fire of all available weapons the attack of the 2d Battalion on Hills Baker and Charlie.

h. When move from assembly area commences, establish three four-man patrols to the front, one leading each column. One four-man patrol on the left (west) flank.

"ITEM—a. Your initial location in assembly area —150 yards south of King Company.

b. Remain in rear of the LD until ordered by me to move. When so ordered, which will be on capture of the objective by assault companies, advance rapidly and go into position between King and Love companies.

c. 60-mm mortar sections of King and Love companies will be attached to Item Company for movement forward and will revert to the control of King and Love companies immediately on arrival at objective.

"PION AND AM PLAT—a. With battalion headquarters.

b. Provide CP security on objective until dawn.

c. At dawn be prepared to close caves or execute other demolitions on objective as directed.

"x. (1) Measures for control: (a) Platoon commander at head of each platoon column, platoon guide at rear of column.

(b) Maintain column formation until after crossing second terrace on Hill Able.

(c) King Company on the left is the base company. Love maintain contact with King.

(d) Successive phase lines from south to north. Halt on phase lines only long enough to close up and establish contact if lost. These are phase lines: (1) retaining wall, first terrace. (2) retaining wall, second terrace. (3) south side of road. (4) south bank of Asahi Creek. (5) retaining wall, third terrace. (6) retaining wall, fourth terrace.

(2) Means of identification: (a) A cross of one-inch adhesive tape, each strip six inches long, will be taped to the back of each man's helmet.

(3) The password is 'Hurley-Burley.'

(4) Fix bayonets before leaving forward assembly area.

(5) All personnel in rifle platoons of assault companies (including officers) normally armed with the carbine will exchange that weapon for an M1.

(6) M1s will be carried loaded and *locked.*

(7) BARs—magazines inserted, bolts *forward.*

(8) Platoon leaders and NCOs rigidly enforce 'no talking.'

(9) Absolute and complete blackout discipline will be maintained.

(10) Security patrols to front and flanks as already outlined.

(11) Immediate deployment into squad column will be effected, and rapid advance made when the movement is discovered by the enemy after passing Phase Line 6.

(12) If our general movement is discovered before we cross Phase Line 6, either assault company commander is authorized to break radio silence. I am authorized by the regimental commander to continue with the attack or to withdraw. This decision will be in accord with circumstances and the intensity and degree of coordination of enemy fire.

(13) Notify battalion commander as soon as the objective is taken.

(14) Rallying point in case a withdrawal is necessary: in assigned zones behind stone wall between third and fourth terraces.

(15) Signal for withdrawal will be 'X Ray George' passed over voice radio and authenticated by phrase 'Blue Six,' or phrase 'Blue Three,' at the same time three red star parachutes will be fired in rapid succession.

"ADMINISTRATION:

a. Ammunition: each rifleman—11 clips; 1 AR mag; 4 hand grenades. Each BAR man—7 mags.

b. Rations: all personnel—one-third K ration.

c. Equipment: normal, less packs. Drop packs in assembly areas.

d. Battalion aid station move with battalion command group. Establish aid station in low ground between knolls, approximately in center of the battalion zone of action.

"COMMUNICATION INSTRUCTIONS:

a. Current SOI in effect.

b. Pyrotechnics: All pyrotechnics are under control of battalion commander and assault company commanders. Signals: Two green star parachutes—artillery box in objective. Two amber parachutes—objective taken. Three red star parachutes —artillery fire protective concentrations on objective and along west flank battalion zone of action to protect withdrawal. This pyrotechnic signal to be fired only by battalion commander, or on his express authority.

c. Radio: Maintain radio silence until movement is discovered or assault is launched.

d. Battalion commander will move with com-

mand group, King Company. On arrival on objective, battalion commander will establish CP in low grounds approximately 200 yards west of the Shinto shrine and in the vicinity of the aid station.

"You have approximately one and a half hours of daylight. Company and platoon leaders and at least two members of each reconnaissance patrol will view assigned zones of action at dusk. Don't misunderstand me about the view at dusk. View it before dusk as thoroughly as possible. The view at dusk is in addition to daylight reconnaissance. Are there any questions? If not, that is all. Check time—it is now 1738."

For the purpose of the problem, this attack jumped off on schedule and was successful.

Quotations from the field manuals have been used freely throughout. It is well to remember that the doctrines and methods prescribed in the field manuals represent the essence of the battle experience of hundreds of units and thousands of officers and men, not only of our own army, and not only in the present war.

To emphasize the points brought out in their illustrative problem a quotation from the conclusion to the chapter "Night Attacks" in "Infantry in Battle" is pertinent. In this chapter six night attacks of World War I are analyzed. These attacks were variously made by American, French and German units. Several were successful, others were not. In those which did *not* succeed, the doctrines and methods discussed this afternoon *had not* been observed. . . . "Night attacks cannot be improvised; to have even a reasonable chance of success they must be planned and prepared down to the last foreseeable detail. Among the many things the leader must take into consideration in planning a night operation, the following are particularly important: Night attacks should preferably be undertaken by fresh, well-trained troops in good physical condition. The troops must be under control at the start.

The objective of the night attack should be well defined and easily recognized in the dark.

The units making the attack should be able to form opposite the objective and at no great distance from it.

Generally speaking, there can be no maneuver. Each attacking column must drive through to its objective without regard to the progress of the adjacent units.

Routes of approach must be clearly defined and unmistakable in the dark.

Subordinate leaders should be given adequate opportunity for daylight reconnaissance.

The formation should facilitate the maintenance of direction and control. This means a column formation in the early stages and, as the enemy is approached, a line of small columns preceded by patrols. The skirmish line is undesirable.

A strong leader with a few determined men should head each column. A reliable officer or non-commissioned officer should bring up the rear.

Orders must be explicit. Every subordinate leader should know the objective; the compass direction of attack; the formations that are to be taken up; the exact mission of his unit; the signal for the assault; action in case the enemy is not surprised; locations of rallying points in the event the attack is repulsed; action upon carrying the enemy position; and the means of identifying friendly troops. Subordinate leaders should pass this information on to their men.

Secrecy and silence are essential. There must be no firing, no yelling, no smoking, no striking of matches. Absolute silence should be maintained until the attack erupts in the enemy works.

Night attacks are difficult operations. They are frequently the expression of a vigorous leadership which, regardless of difficulties, is determined to carry through to a successful conclusion. But despite the vigor of leadership, these attacks will usually fail unless extreme attention be accorded that military trinity of the night: *direction, control,* and *surprise.*

Seasickness—Cause and Remedy

Since the war began, a great deal of research has been done in the United States, England and Canada to find drugs which will prevent seasickness. This common malady has had some effect on the efficiency of men at sea, and the worst problem has been seasickness in landing barges.

Researchers have been pleased—even somewhat surprised—at the success of some drugs. They are far from perfect, but they will prevent about two-thirds of the cases, according to Dr. G. R. Wendt, secretary of the subcommittee on motion-sickness of the National Research Council.

The well-known drug, scopolamine, used ordinarily as a sedative ("twilight sleep") for surgery and during childbirth, gives excellent results when used in small doses. Tests with service men as subjects have shown that efficiency of men taking the pills is entirely normal.

Dr. Wendt says that "we carry the chief cause of motion-sickness around in our own ears," and that many deaf people are immune. The inner ear, he explains, has a mechanism that perceives any body motion so that balance can be restored.

The fault, however, does not lie in over-active ears, but in the mechanisms of nausea. Studies show that these are more active in some people than in others. It is also believed that eyes are contributing factors to seasickness.

Good Reading For Marines

★ ★

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Hospital Ships

Floating medical centers have saved thousands of marines by providing treatment that is virtually on a level with that of Stateside hospitals. Our newest ships were planned to save the minutes that very often mean lives.

AN aerial photograph snapped of the transport area at Okinawa showed a white image among the grey shapes of the warships and assault transports of the attacking task force. It was a hospital ship—familiar and comforting presence to the Marine, Army and Navy people engaged in driving the Japs inland from the beach. Ever since the Solomons campaign, these ships have been in every battle area, lying-to off the beach taking aboard and treating the wounded, a fully equipped hospital afloat manned by skillful surgeons, trained nurses and corpsmen. Their standing with the troops they serve is high. Many a marine and soldier, according to mail censors, writes the folks that even if he is wounded not to worry "because there is always a hospital ship nearby."

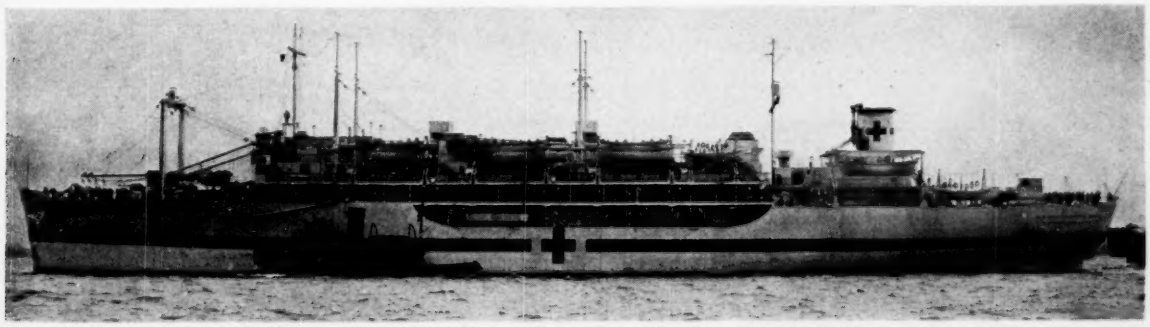
Although a good and respected convoy mate, few realize how the hospital ships perform their frequent miracles. The marine who rides the whip sling to the quarter deck with a slug in his shoulder or a backful of shrapnel and shortly finds himself in a clean comfortable sack, his wounds tended and bound, and a hard-working corpsman stuffing him with penicillin or sulfadiazine or other medicant according to his needs with maybe a chaser of fruit juice and ice cream, doesn't ask how and with what. He's too full of wonder at the transformation of his surroundings and thanks to the Almighty that he has breath left in his body.

The modern hospital ship has saved lives by the thousand. Their record is both testament and tribute to the skill and determination of the medical corps and to the experience and thought that have gone into the design of the ships and the equipment aboard.

Now the six veteran hospital ships, the *Solace*, the *Bountiful*, the *Refuge*, the *Relief*, the *Samaritan* and the *Rescue*, have been supplemented by six new ships of the *HAVEN* class—built for the purpose from the keel up. The newcomers, the *Haven, Tranquillity, Consolation, Benevolent, Sanctuary* and *Repose*, will be able to lighten the heavy burden their forerunners have borne. Their appearance coincides with a fundamental change in the role of the hospital ship. Formerly, the hospital ship's purpose was to evacuate the wounded to an appointed base hospital and at the same time provide their charges with more adequate medical facilities than were available in the field. The rapid growth of air evacuation and use of transports for evacuation purposes have allowed the hospital ship to shift from the evacuation mission to that of a floating hospital with the attack force. They are now the floating counterpart of shore establishments. In addition, they act as forward warehouses, having sufficient storage space to stock medical supplies for distribution to other ships and shore stations. The resultant reduction in the length of the medical supply line is no small item. Finally, each ship loads a completely equipped field hospital which can be set up ashore in short order.

Literally, the hospital ships must be ready for anything. They must treat wounds of all descriptions, fractures, shock, psychoneurosis, burns—as well as the full gamut of diseases to which the fighting man is susceptible. In the case of the seriously wounded speed is essential. One ship's experience showed that abdominal surgery performed within the first six hours had a far higher percentage of recoveries than those where the operation was delayed.

A CAREFULLY planned procedure insures the quickest handling of the patient. On some ships, a medical officer inspects each casualty, determines the extent of injury on the quarter-deck



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as the injured come aboard, and assigns the proper ward. If required and practicable, patients are x-rayed before being placed in the wards to save their being moved again for the purpose. On arrival in the ward, the casualty's clothing is removed. He receives emergency treatment against shock, hemorrhage or other condition. Then in the interests of maximum comfort, if he is able, the patient is allowed a bed bath. He is then ready for the full treatment which is given as soon as the urgency of his wounds requires.

Treatment is almost on a level with that to be had in a United States hospital—and sometimes was able to be given as soon as thirty minutes after the casualty had been hit. It is not unusual for a seriously injured patient to be well along the road to recovery by the time the hospital ship reaches the shore hospital to which they are bringing their wounded.

The record of the ships to date is impressive. The *Bountiful* for example took aboard 4470 injured combatants in two trips from Saipan, one from Guam, two from Peleliu, and four from Leyte. This does not include either Iwo or Okinawa. The *Solace*, nicknamed the workhorse of the Pacific, had her first assignment 7 December 1941 and has been on the go ever since. She cared for casualties from the battle of the Coral Sea while stationed at the Tongan Island group and took the first wounded coming out of the Solomons. During this period she treated and carried to assigned base hospitals 8500 patients. The *Relief*, the *Refuge* and the *Samaritan* also boast a distinguished and an active record of service.

These ships, converted from passenger liners, have a permanent capacity of approximately 600 beds—a figure which in emergency can be upped several hundred. Storerooms are extra large. An oversize quarter-deck takes care of reception and sorting of patients. Below decks are a carefully planned layout of operating suites and other spaces for treating the sick and wounded. During the refitting, consideration was given to the specialized nature of the ship's mission. Where broad companionways existed, they were as far as possible retained to facilitate movement of patients to the wards.

The *Bountiful* has developed an improvement for taking patients aboard. Lt J. J. Yutkus and Chief Boatswain R. L. Schooling—both USN—designed a single whip-hoist of which the ship is very proud. The hoist enables them to take aboard passengers in almost any sea—even when the gangway is unapproachable. There are six of these at various locations on the ship, and the *Bountiful*, by using them, can take aboard a maximum load of patients—or discharge them—in two and one-half to three hours.

The new *Haven*-class hospital ships have had incorporated into their design and equipment the results of years of experience and more than a

year's careful planning. The Navy's objective was to build the finest hospital ships afloat. Observers say that that objective has been achieved. Medical officers who have been aboard account them the peer, in both equipment and design, of most Stateside naval hospitals.

The statistics show them to be bigger than the veterans, a displacement of 15,000 tons, 520 feet overall, 71-foot six inch beam. Maximum speed is 17½ knots and at that speed a cruising radius of 12,000 miles. Permanent installations can accommodate 802 casualties, and if the need arises facilities can be expanded to handle 1000.

The turbines, stack and all ship's machinery have been placed aft so that the medical department enjoys the exclusive use of the forward compartments. This permits continuous corridors to link all medical sections—a vital factor for avoiding traffic jams when the going gets heavy. Even the usual cargo trunks from the well deck to the hold bypass the forward medical spaces.

Decks above the waterline are given over to wards and substantial outside recreation spaces. Medical personnel are all below the water-line, but on the *Haven*-class ship this location by no means spells hot, stuffy quarters. For the first time in Navy history, the ships are completely air conditioned. Each compartment is controlled individually by its thermostat. In case of breakdown of the air conditioning system, there is a separate fan system for maintenance of ventilation.

Examination of these ships impresses the visitor with the thought and knowledge which have been put into the design, and the attention to detail. The surgical suite, for instance, has been placed at the metacenter of the ship to minimize pitch and roll. It may be reached by a pair of elevators which serve all decks, and two ladders. The elevators can lift 3000 pounds and are sufficiently large to handle a litter and several attendants. The angle of incline and the dimensions of the ladder wells allow a litter to be carried easily on an even keel, and the landings are of a size to permit turning the litter without having to worry about rail clearance.

The juxtaposition of medical spaces is carefully planned. Facilities used by both operating rooms and the wards are between the two. The anesthesia room is across the lobby from the operating rooms —the plaster room adjoins the fracture operating room and is connected thereto by a door as it is with the center operating room, central surgical supply, and instrumental sterilization.

The dressing rooms attached to the wards contain a folding table so constructed as to serve, in emergency as an operating table, or as a work table when not employed for dressings. Each has a standard operating room light. The lights over the regular operating tables are swung on trucks which enable them to be moved so that the central

focus is over the desired spot on the table.

Below the surgical suite are the x-ray, radiographic, physiotherapy and fluoroscopic rooms; the EENT, dental and dermatology clinics and the optical shops. Each of these units has a full quota of standard equipment.

The wards have features of comfort not to be found in the average shore hospital. Each sack has its reading lamp and a five-channel radio jack within easy reach. There is a locker apiece. Reading matter from the ship's library is brought in at regular intervals.

The designers of the ship's interior have apparently been as much concerned with chow as the average marine. The layout of the pantries is fundamentally different from any previous installation and boasts new equipment. The wards receive their food from the galley via food elevators to "food points" on the main deck. At these points the chow goes into inter-locking vacuum containers fitted to carts which wheel it to the diet pantries where the containers go into an electrically heated cabinet—built to take them. Meals come to bed patients on a folding bed tray which doubles in brass as a bed table.

Collapsible tables in the enlisted mess can be secured and the mess hall becomes a movie theatre or a recreation room. The mess itself operates cafeteria style beginning at the foot of the port ladder with one-way traffic looping around to the tray disposal station at the starboard ladder. Garbage is ground up and flushed through the waste pipes of the sanitation system. There is a welter of other special equipment including two 40-gallon an hour capacity milk reconstituters. The main galley has a separate kitchen for making up special diets. The pantries of the wards have rotary toasters, refrigerators and a grinder for garbage disposal.

Refrigeration is extensive. There is a thousand cubic foot quick-freeze section. Ice cream machinery is sufficient to supply ship's company, the medical staff and a full load of patients. There is a separate reefer compartment for the storage of biologicals.

The hundred-bed field hospital has a special space of its own, directly off the forward trunk outlet. It is combat-loaded, complete with supplies, cots and litters, and ready to go over the side as soon as beach conditions permit.

Outboard, the *Haven* and her sister ships feature a number of innovations geared to speed taking on and disembarking of casualties. The *Bountiful's* whip-action hoist, put on a power winch which is controlled from the rail (eliminating the need for a signalman), has been borrowed. There are ten of these in all, of the multiple litter variety with a lift capacity of 500 pounds at the rate of 150 feet a minute.

Power boats, loaded with wounded, may be

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picked clean from the water and brought to rail height, or to deck cradles for direct boat to deck unloading on double-type Welin davits. There is a set of these davits forward on each side of the ship. These davits anticipate specially designed ambulance boats.

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Combat Stars

Operations from Pearl Harbor to Iwo Jima

Here is the first official list of authorized battle stars for Naval personnel to be released since the one which covered the Marianas operation. It lists all operations in the Pacific from 7 December 1941 to 16 March 1945, including Iwo Jima, with the dates between which any personnel must have been attached to participating units to be eligible to wear the battle stars.

Asiatic-Pacific Area Service Ribbon

PEARL HARBOR—MIDWAY	7 Dec. 1941
WAKE ISLAND	8-23 Dec. 1941
PHILIPPINE ISLANDS OPERATION (Including other concurrent Asiatic Fleet operations)	8 Dec. 1941—6 May 1942
NETHERLANDS EAST INDIES ENGAGEMENTS	23 Jan. 1942—27 Feb. 1942
(Only one star for participation in one or more of the following:)	
Makassar Strait	23-24 Jan. 1942
Badoeng Strait	19-20 Feb. 1942
Java Sea	27 Feb. 1942
PACIFIC RAIDS—1942	
(Only one star for participation in one or more of the following:)	
Marshall-Gilbert raids	1 Feb. 1942
Air action off Bougainville	20 Feb. 1942
Wake Island raid	24 Feb. 1942
Marcus Island raid	4 Mar. 1942
Salamaua-Lae raid	10 Mar. 1942
CORAL SEA	4-8 May 1942
MIDWAY	3-6 June 1942
GUADALCANAL-TULAGI LANDINGS (Including First Savo)	7-9 Aug. 1942
CAPTURE AND DEFENSE OF GUADALCANAL	10 Aug. 1942—4 Feb. 1943
Makin raid	17-18 Aug. 1942
Eastern Solomons (Stewart Isl.)	23-25 Aug. 1942
Buin-Faisi-Tonolai raid	5 Oct. 1942
Cape Esperance (Second Savo)	11-12 Oct. 1942
Santa Cruz Islands	26 Oct. 1942
Guadalcanal (Third Savo)	12-15 Nov. 1942
Tassafaronga (Fourth Savo)	30 Nov.—1 Dec. 1942
Eastern New Guinea operation	17 Dec. 1942—24 July 1944

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(Only one star for participation in one or more of the following:)
Designated duty in connection with Motor Torpedo Boat Operations ..... 17 Dec. 1942—24 July 1944
Lae occupation ..... 4-22 Sept. 1943
Finschhafen occupation ..... 22 Sept. 1943—17 Feb. 1944
Saidor occupation ..... 2 Jan.—1 Mar. 1944
Wewak-Aitape operations ..... 14-24 July 1944
Supporting and consolidating operations designated by Commander Seventh Fleet ..... 17 Dec. 1942—24 July 1944

RENNELL ISLAND ..... 29-30 Jan. 1943

CONSOLIDATION OF SOLOMON ISLANDS ..... 8 Feb. 1943—15 Mar. 1945
(Only one star for participation in one or more of the following:)
Consolidation of Southern Solomons ..... 8 Feb.—20 June 1943
Consolidation of Northern Solomons ..... 27 Oct. 1943—15 Mar. 1945

ALEUTIANS OPERATIONS ..... 26 Mar.—2 June 1943
(Only one star for participation in one or more of the following:)
Komandorski Island ..... 26 Mar. 1943
Attu occupation ..... 11 May—2 June 1943

NEW GEORGIA OPERATION ..... 20 June—16 Oct. 1943
(Only one star for participation in one or more of the following:)
New Georgia-Rendova-Vangunu occupation ..... 20 June—31 Aug. 1943
Kula Gulf action ..... 5-6 July 1943
Kolombangara action ..... 12-13 July 1943
Vella Gulf action ..... 6-7 Aug. 1943
Vella Lavella occupation ..... 15 Aug.—16 Oct. 1943
Action off Vella Lavella ..... 6-7 Oct. 1943

PACIFIC RAIDS—1943
(Only one star for participation in one or more of the following:)
Marcus Island raid ..... 31 Aug. 1943
Tarawa Island raid ..... 18 Sept. 1943
Wake Island raid ..... 5-6 Oct. 1943

TREASURY-BOUGAINVILLE OPERATION ..... 27 Oct.—15 Dec. 1943
(Only one star for participation in one or more of the following:)
Supporting air actions ..... 27 Oct.—15 Dec. 1943
Treasury Islands landing ..... 27 Oct.—6 Nov. 1943
Choiseul Island diversion ..... 28 Oct.—4 Nov. 1943
Occupation and defense of Cape Torokina ..... 1 Nov.—15 Dec. 1943
Bombardment of Buka-Bonis ..... 31 Oct.—1 Nov. 1943
Buka-Bonis strike ..... 1-2 Nov. 1943
Bombardment of Shortland Area ..... 1 Nov. 1943
Battle of Empress Augusta Bay ..... 1-2 Nov. 1943
Rabaul strike ..... 5 Nov. 1943
Action off Empress Augusta Bay ..... 8-9 Nov. 1943
Rabaul strike ..... 11 Nov. 1943
Battle off Cape St. George ..... 24-25 Nov. 1943

GILBERT ISLANDS OPERATION ..... 13 Nov.—8 Dec. 1943

MARSHALL ISLANDS OPERATION ..... 26 Nov. 1943—2 Mar. 1944
(Only one star for participation in one or more of the following:)
Air attacks designated by CinCPac on defended Marshall Islands targets ..... 20 Nov. 1943—2 Mar. 1944
Occupation of Kwajalein and Majuro Atolls ..... 29 Jan.—8 Feb. 1944
Occupation of Eniwetok Atoll ..... 17 Feb.—2 Mar. 1944
Attack on Jaluit Atoll ..... 20 Feb. 1944

BISMARCK ARCHIPELAGO OPERATION ..... 25 June 1943—1 May 1944

(Only one star for participation in one or more of the following:)
Designated duty in connection with Motor Torpedo Boat operations ..... 25 June 1943—1 May 1944
Supporting air actions ..... 15 Dec. 1943—1 May 1944
Arawe, New Britain ..... 15 Dec. 1943—1 Mar. 1944
Kavieng strike ..... 25 Dec. 1943
Cape Gloucester, New Britain ..... 26 Dec. 1943—1 Mar. 1944
Kavieng strike ..... 1 Jan. 1944
Kavieng strike ..... 4 Jan. 1944
Green Islands landing ..... 15-19 Feb. 1944
Bombardments of Kavieng and Rabaul ..... 18 Feb. 1944
Anti-shipping sweeps and bombardments of Kavieng ..... 21-25 Feb. 1944
Anti-shipping sweeps and bombardments of Rabaul and New Ireland ..... 24 Feb.—1 Mar. 1944
Admiralty Islands landings ..... 29 Feb.—17 Apr. 1944
Supporting and consolidating operations designated by Commander Seventh Fleet ..... 25 June 1943—1 May 1944

ASIATIC-PACIFIC RAIDS—1944
(Only one star for participation in one or more of the following:)
Truk attack ..... 16-17 Feb. 1944
Marianas attack ..... 21-22 Feb. 1944
Palau, Yap, Ulithi, Woleai raid ..... 30 Mar.—1 Apr. 1944
Sabang raid ..... 19 Apr. 1944
Truk, Satawan, Ponape raid ..... 29 Apr.—1 May 1944
Soerabaja raid ..... 17 May 1944

WESTERN NEW GUINEA OPERATIONS ..... 21 Apr.—15 Nov. 1944
(Only one star for participation in one or more of the following:)
Designated duty in connection with Motor Torpedo Boat operations ..... 21 Apr.—15 Nov. 1944
Hollandia operations (Aitape-Humboldt Bay-Tanahmerah Bay) ..... 21 Apr.—1 June 1944
Toem-Wakde-Sarmi Area operation ..... 17 May—21 June 1944
Biak Island operation ..... 27 May—21 June 1944
Noemfoor Island operation ..... 2-23 July 1944
Cape Sansapor operation ..... 30 July—31 Aug. 1944
Morotai landings ..... 15 Sept. 1944
Supporting and consolidating operations designated by Commander Seventh Fleet ..... 21 Apr.—15 Nov. 1944

MARIANAS OPERATION ..... 10 June—27 Aug. 1944
(Only one star for participation in one or more of the following:)
Neutralization of Japanese bases in the Bonins, Marianas and Western Pacific ..... 10 June—27 Aug. 1944
Capture and occupation of Saipan ..... 11 June—10 Aug. 1944
First Bonins raid ..... 15-16 June 1944
Battle of Philippines Sea ..... 19-20 June 1944
Second Bonins raid ..... 24 June 1944
Third Bonins raid ..... 3-4 July 1944
Capture and occupation of Guam ..... 12 July—15 Aug. 1944
Capture and occupation of Tinian ..... 20 July—10 Aug. 1944
Palau, Yap, Ulithi raid ..... 25-27 July 1944
Fourth Bonins raid ..... 4-5 Aug. 1944

WESTERN CAROLINE ISLANDS OPERATION ..... 31 Aug.—14 Oct. 1944
(Only one star for participation in one or more of the following:)

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Raids on Volcano-Bonin Islands and Yap Islands ..... 31 Aug.—8 Sept. 1944
Capture and occupation of the Southern Palau Islands ..... 6 Sept.—14 Oct. 1944
Assaults on the Philippine Islands 9-24 Sept. 1944

LEYTE OPERATION ..... 10 Oct.—16 Dec. 1944
(Only one star for participation in one or more of the following:)
Leyte landings ..... 10 Oct.—29 Nov. 1944
Battle for Leyte Gulf ..... 24-26 Oct. 1944
(Including Battle of Surigao Strait
Battle off Samar
Battle off Cape Engano
Submarine participation)
Third Fleet supporting operations
Okinawa attack ..... 10 Oct. 1944
Northern Luzon and Formosa attacks ..... 11-14 Oct. 1944
Luzon attacks ..... 15, 17-19 Oct. 1944
5-6, 13-14, 19-25 Nov. 1944
14-16 Dec. 1944
Visayas attacks ..... 20-21 Oct. 1944
11 Nov. 1944
Ormoc Bay landings ..... 7-13 Dec. 1944

LUZON OPERATION ..... 12 Dec. 1944
(date to be announced later)
(Only one star for participation in one or more of the following:)
Mindoro landings ..... 12-18 Dec. 1944
Lingayen Gulf landings ..... 4-18 Jan. 1945
Third Fleet supporting operations
Luzon attacks ..... 6-7 Jan. 1945
Formosa attacks ..... 3-4, 9, 15, 21 Jan. 1945
China Coast attacks ..... 12, 16 Jan. 1945
Nansei Shoto attack ..... 22 Jan. 1945
Bataan-Corregidor landings ..... 13-18 Feb. 1945

IWO JIMA OPERATION ..... 15 Feb.—16 Mar. 1945
(Only one star for participation in one or more of the following:)
Assault and occupation of Iwo Jima ..... 15 Feb.—16 Mar. 1945
Fifth Fleet raids against Honshu and the Nansei Shoto ..... 15 Feb.—16 Mar. 1945

ESCORT, ANTI-SUBMARINE, ARMED GUARD AND SPECIAL OPERATIONS:
(One star for participation in each of the following:)
USS NAVAJO—salvage operations
8 Aug. 1942—3 Feb. 1943
Naval Group China ..... 19 Feb. 1943
(date to be announced later)
Action off Vanikoro ..... 17-21 July 1943
Units defending Piva Yoke air installations designated by CinCPac
8 Mar.—12 Apr. 1944
Task Group 30.4 ..... 22 May—15 June 1944
Task Group 12.2 ..... 5 July—9 Aug. 1944

European-African-Middle Eastern Area Service Ribbon

NORTH AFRICAN OCCUPATION ..... 8 Nov. 1942—9 July 1943
(Only one star for participation in one or more of the following:)
Algeria-Morocco landings ..... 8-11 Nov. 1942
Action off Casablanca ..... 8 Nov. 1942
Tunisian operations ..... 8 Nov. 1942—9 July 1943

SICILIAN OCCUPATION ..... 9-15 July 1943
28 July—17 Aug. 1943

SALERNO LANDINGS ..... 9-21 Sept. 1943

WEST COAST OF ITALY OPERATIONS ..... 22 Jan.—17 June 1944
(Only one star for participation in one or more of the following:)
Anzio-Nettuno advanced landings ..... 22 Jan.—1 Mar. 1944
Bombardments Formia-Anzio area ..... 12 May—4 June 1944
Elba and Pianosa landings ..... 17 June 1944

INVASION OF NORMANDY ..... 6-25 June 1944
(Including bombardment of Cherbourg)

NORTHEAST GREENLAND OPERATION ..... 10 July—17 Nov. 1944

INVASION OF SOUTHERN FRANCE ..... 15 Aug.—25 Sept. 1944

ESCORT, ANTI-SUBMARINE, ARMED GUARD AND SPECIAL OPERATIONS:
(One star for participation in each of the following:)

RUSSIAN CONVOY OPERATIONS ..... 16 Dec. 1941—27 Feb. 1943
Convoy ON-166 ..... 20-25 Feb. 1943
Convoy UC-1 ..... 22-24 Feb. 1943
Convoy SC-121 ..... 3-10 Mar. 1943
Convoy UGS-6 ..... 12-18 Mar. 1943
Convoy HX-233 ..... 16-18 Apr. 1943
Task Group 21-12 ..... 20 Apr.—20 June 1943
Task Group 21.11 ..... 13 June—6 Aug. 1943
Task Group 21.12 ..... 27 June—31 July 1943
Convoy MKS 21 ..... 13 Aug. 1943
Task Group 21.14 ..... 25 Sept.—9 Nov. 1943
Norway Raid ..... 2-6 Oct. 1943
Convoy KMF-25A ..... 6 Nov. 1943
Task Group 21.13 ..... 11 Nov.—29 Dec. 1943
Task Group 21.14 ..... 2 Dec. 1943—2 Jan. 1944
Task Group 21.12 ..... 7 Mar.—26 Apr. 1944
Task Group 21.16 ..... 11-13 Mar. 1944
Convoy UGS-36 ..... 1 Apr. 1944
Convoy UGS-37 ..... 11-12 Apr. 1944
Convoy UGS-38 ..... 20 Apr. 1944
Task Group 21.11 ..... 22 Apr.—29 May 1944
Convoy UGS-40 ..... 11 May 1944
Task Group 22.3 ..... 13 May—19 June 1944
Task Group 22.5 ..... 3 June—22 July 1944

American Area Service Ribbon

ESCORT, ANTI-SUBMARINE, ARMED GUARD AND SPECIAL OPERATIONS:
(One star for participation in each of the following:)
Convoy ON-67 ..... 21-26 Feb. 1942
Convoy TAG-18 ..... 1-6 Nov. 1942
Convoy SC-107 ..... 3-8 Nov. 1942
Task Group 21.13 ..... 12 July—23 Aug. 1943
Task Group 21.14 ..... 27 July—10 Sept. 1943
Task Group 21.15 ..... 24 Mar.—11 May 1944

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War Orphans Scholarships, Inc.

ORPHANS of World War II are being offered educational aid through War Orphans Scholarships, Inc.

The corporation was organized in 1943 to provide college or vocational school scholarships for minor children of officers and men who were killed in action or died of service-connected disabilities. In some instances, the corporation may declare a child eligible even when both parents are alive, if they are incapacitated and unable to give the child an education.

Scholarships, each for $500, will be applied for tuition and fees, board and room, and books and supplies. They will be payable not to the recipients, but to the proper college officers. If the entire sum is not used the first year, the remainder will be applied for the same student in the next college year. For the time being, War Orphans Scholarships is considering only one scholarship to a child. However, it is hoped that money will be raised to meet additional requirements, and no by-laws prohibit a second scholarship. A donor may extend another scholarship to a child doing well in college. There is no objection to an original donor extending his generosity to the same child.

THE orphans are selected by a Scholarship Committee. Members are: MajGen P. C. Harris, U. S. A. Retired, chairman of the Board of Directors; BrigGen Frank T. Hines, former Administrator of Veterans' Affairs; MajGen James A. Ulio, The Adjutant General, U. S. Army; Watson B. Miller, Assistant Federal Security Administrator; MajGen DeWitt Peck of the Marine Corps; and Rear Admiral Lloyd T. Chalker, Assistant Commandant of the Coast Guard.

These members, plus William E. McKenney, Albert H. Morehead and Curt H. Reisinger, comprise the officers and directors of War Orphans Scholarships, Inc. None receives pay or remuneration for his activities. Expenses, consisting mainly of clerical costs, are small, and are entirely underwritten by the American Contract Bridge League.

MEMBERS of the Bridge League are the active field workers, collecting funds from contract bridge club members throughout the country. At the start, the organization thought that no scholarships would be awarded until the war ended. However, several orphans were eligible and the funds for their education are being paid out now. Through efforts of Bridge League members, enough money has been raised for 20 scholarships, which have been awarded already. It is estimated that approximately 40 more scholarships will be needed this fall, and will be available.

It is apparent that, due to the youth of the average service man, there are few with children of college age. However, as the years pass, more and more children will become old enough for college. Hence, War Orphans Scholarships activities will continue for many years, and increase in size.

The military services have indicated their support by contributing sums from royalties on pictures, payments for magazine articles, profits from the publication of books, and money from service welfare funds. Each contribution goes directly and entirely to the benefit of an orphan. None is used for expenses.

Limited now to assisting orphans, the organization hopes to provide scholarships, as funds become available, for children of any service man in World War II.